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DOES ARMY NEED BETTER EDUCATED SOLDIERS?

This is the third in the series of open papers produced under the sponsorship of the Australian Army's Director General Training and Doctrine (DG TRADOC). These papers investigate targeted facets of professional development through comparative analysis. They aim to generate a robust discussion about the future of the Australian profession of arms on land, and about Army's future needs in the spheres of professional development and professional military education. Comments should be directed to claire.vonwald@defence.gov.au.

Traditionally, military education in the Australian Army has focused on the education of officers, principally through the First Appointment Course at the Royal Military College, the Command and Staff Course, and study at Higher Defence Colleges. The objective of this education remains to develop leaders who can think strategically and operate in a joint environment, and there is a strong focus on developing intellectual skills and abilities.¹ This series of courses makes an important contribution to capability, and it seems clear that this will remain a crucial element of Army's individual training and education continuum.

More recently, however, there has been increasing discussion, debate and action on military education for soldiers. A number of other military organisations are investing in this education. For example, a United States Joint Chiefs of Staff [directive](#) requires all military components to implement a tailored education program for all ranks,² and NATO has developed an NCO Professional Military Education [curriculum](#) to encourage soldier education amongst its members.³ The objective of this paper is to consider whether the Australian Army also needs to invest in better education for soldiers.

To ensure clarity, some definitions are required. Firstly, in discussing 'soldiers' this paper refers to those who do not hold a commission – private soldiers (PTE), junior non-commissioned officers (JNCO), senior non-commissioned officers (SNCO) and warrant officers (WO). Secondly, it is

important to confirm what we mean by 'education'. Traditionally, the remit – or even the central aim⁴ - of education is the development of intellectual skills and knowledge. Consistent with this tradition, Australian Army doctrine⁵ states that military education has two primary objectives: to develop and maintain intellectual skills and to develop knowledge and understanding of the profession of arms. Therefore, 'education' means those activities – courses, lessons, exercises or other learning solutions – that are intended to develop intellectual skills and knowledge of the profession.

WHAT IS THE CURRENT STATE OF PLAY?

Before discussing whether Army needs 'better' education for its soldiers, it is important to understand the current education environment.

Entry to the Australian Army for soldiers "requires completion of Australian Year 10 education (or equivalent) with passes in English and Mathematics".⁶ This is consistent with state requirements for compulsory education for young people, with the majority of states mandating completion of Year 10 schooling.⁷ As a result, the foundation level of intellectual skills and knowledge for soldiers is on a par with Australian society.

Following enlistment, Army implements a range of education initiatives. Throughout the All Corps Soldier Training Continuum (ACSTC) a range of learning solutions progressively develop the ability of individual soldiers to communicate, think and decide in accordance with the requirements of the All Corps Soldier Employment Specification.⁸ Additional corps- or trade-specific education is provided, including civilian-accredited vocational education for some. The ACSTC and trade training continuum ensures relevant practical professional knowledge is imparted to our soldiers.

Army also encourages and supports selected individuals to study at civilian institutions through programs such as the Army Civil Schooling Program, the Army Tertiary Education Program, the Defence Assisted Study Scheme, and the ADFA Postgraduate Scheme.⁹ Support with literacy, numeracy and study techniques is available, as are programs to improve writing skills. These education initiatives are voluntary, not limited by the rank or role of the individual soldier, and not all are applied to specific career paths.

So, it is clear that Army does invest time, energy and resources in educating soldiers. Is it, however, enough to meet Army's mission now and into the future?

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WHAT WILL THE FUTURE BRING?

While it is useful to understand the educational requirements for soldiers in the current operating environment, the future operating environment must be a consideration in determining potential future education requirements. Army's [Future Land Warfare Report](#) of 2014 describes five trends in the future operating environment. It will be:

- **crowded** meaning that a range of factors (including urbanisation, rural to urban migration, population growth, resource scarcity and environmental and regional political instability) will create “complex human, informational and urban physical terrain”.¹⁰
- **connected** as a result of “the flattening effect of the interconnected global economic, social and communications systems”.¹¹
- **lethal** because of increased effectiveness of weapon systems or objects in inflicting death and the destruction, and because high levels of lethality will not be restricted to nation-states and regular armed forces, and will occur in any type of operation.¹²
- **collective** because of the prevalence of “security or sharing arrangement[s] both regional and global, in which each party cooperates to form a cogent total response to common threats to, and breaches of, the prevailing order.”¹³
- **constrained** because of the “limitations and restrictions that will define, influence and constrain the way the land force conducts future land warfare.”¹⁴

These trends are consistent with the ADF-level thinking on the future operating environment, as expressed in [Future Operating Environment 2035](#). The Future Land Warfare Report recommends that “new psychological and intellectual capabilities should be a part of the development of the Army, including the ability to negotiate with others, utilize interpreters, operate in ambiguous environments, improvise, make decisions under pressures, and understand local cultures, history and politics”.¹⁵

DOES THIS CHANGE THE SOLDIER EDUCATION REQUIREMENT?

Generically speaking, the FLWR and FOE 2035 place a higher emphasis on intellectual capabilities than currently exists, and implies a wider knowledge base than that currently required of soldiers. But how will the future operating environment affect the soldier education requirement? Will the need to communicate, think and decide remain extant, will it need to change, and will there be other

intellectual abilities for which Army needs to educate soldiers? Will soldiers need a different knowledge base?

Intellectual Skills

Army currently frames its intellectual need around a series of 'skills' that must be developed. The **first intellectual skill** is communication. "Effective communication skills underpin the individual and collective application of all tasks, techniques, procedures and drills."¹⁶ Although the importance of soldiers being able to communicate verbally is rarely questioned, there is currently a lively, multinational debate about whether soldiers need to be able to write effectively. US Army NCOs [Licea and Kefalas](#) promote writing by NCOs as important for, among other things, the teaching and learning of others, developing mental agility and reflective thinking, and writing effective evaluation reports on subordinates.¹⁷ Australian Army WO Jason [Moriarty](#) highlights the importance of NCOs learning "how to write well in order to influence decisions".¹⁸ In contrast, former enlisted US Marine Peter Lucier [promotes](#) a focus on technical skills rather than writing,¹⁹ and journalist Tom Ricks [highlights](#) the importance of soldiers focusing on soldiering.²⁰

Does the future operating environment change the requirements for soldiers' communication skills? The answer is: probably. A crowded environment will mean a higher chance of interaction with local populations, requiring soldiers to employ persuading, influencing and negotiation skills. This factor also highlights the importance of language skills. A collective environment means a higher probability of working with other services, government and non-government agencies, and other militaries at lower levels, again highlighting the importance of being able to communicate with a range of organisations and individuals. So, it is likely that the breadth of communication skills required of our soldiers in the future will be wider.

The **second intellectual skill** that Army educates for is thinking. "Thinking and analytical skills are incorporated into all Army learning regimes in order to develop an Army of effective thinkers who are capable of the following: recognising problems and articulating questions; gathering, assessing and interpreting relevant information; open-minded thinking while still being aware of assumptions, implications and the practical consequences of actions; and developing well-reasoned conclusions and solutions to problems."²¹ One of the justifications for soldier thinking skills is Army's philosophical focus on manoeuvre theory. [LWD 1 The Fundamentals of Land Power](#) describes manoeuvre as "a way of thinking about warfare rather than the application of a particular set of tactics or techniques"²², an explicit indication of the need for thinking skills.

There is also an argument that recent operational history indicates a need for problem-solving and critical thinking skills at the tactical level. Therefore, many of the skills and abilities that traditional formal military education is designed to develop are no longer the domain of intermediate and senior officers. Writing in the Canadian Military Journal in 2002, Lieutenant Colonel Horn summarises the importance of NCOs with thinking skills as follows:

“Undeniably, senior NCOs, in the same manner as officers, must be taught how to think and use abstract concepts to assist in the resolution of the practical problems they may face. They must expand their knowledge and acquire a broader outlook, as well as develop greater socio-political skills. Furthermore, they must become comfortable with ambiguity and change. Critical thinking and innovation must become their guiding light, instead of the traditional heavy reliance on written procedures given in technical publications and uni-dimensional experience.”²³

Perhaps the most widely referenced concept that supports the need for soldiers to be able to think is that of the ‘strategic corporal’. General Krulak coined this term almost twenty years ago in his 1999 [article](#) that suggested that, as the prevalence of peacekeeping and counter-insurgency operations expanded, the outcomes of military operations “may hinge on decisions made by small unit leaders, and by actions taken at the *lowest* level. ... In many cases, the individual Marine will ... potentially influence not only the immediate tactical situation, but the operational and strategic levels as well”.²⁴ Krulak’s ideas, written before the 9/11 attacks, proved to be prescient and enduring (especially in the minds of the US military). Discussing enhancements to the professional development of NCOs in the United States Army in 2009, (then Sergeant Major of the Army) Preston reinforced the concept as follows:

“The importance of the tactical leadership provided by our NCOs on the ground remains the same today; however, those junior NCOs’ decisions can now have strategic-level impacts on the overall mission. NCOs need to understand, therefore, the overall character of operations and the context of their mission, the general principles of counterinsurgency and cultural differences so they may make decisions that account for cultural sensitivity. The traditional activities of NCOs - communicating, supervising, training, teaching and mentoring - remain at the core of our roles and responsibilities. ... NCOs today must adapt and learn new roles, solve problems, analyze and synthesize information, and manage supplies and resources. The evolution of the operational environment in which many of these activities take place adds complexity and importance to many of the NCOs’ traditional tasks.”²⁵

However, these views should not be taken as rote for the Australian Army. The alternative view is that thinking skills should not be a priority. Dr Al Palazzo (of the Australian Army's Research Centre) [wrote](#) in 2011 that "the Army's cultural preference is towards 'doers' rather than 'thinkers', a leaning towards those who provide a ready answer rather than those who struggle to shape questions or who are willing to challenge existing orthodoxies. ... It must be admitted that there is good reason for the organization to favour doers. The Australian Army is a tactical-level focused force which means that the emphasis must lay with getting tasks done."²⁶

Ex-Australian Army officer and author Richard Hughes provided a similar [view](#) in 2013, describing Army's cultural "respect for something called common sense [which] seems to indicate some capacity for understanding simple matters without excessive analysis, facilitating decision and action".²⁷ He goes further and highlights the negative impacts of thought and thinking on the obedience necessary for soldiers to do things "that are hardly in their best interests".²⁸

So, which view is right as we look ahead? The future operating environment is likely to increase the need for soldiers to exercise critical and creative thought. All of the trends identified in the FLWR create a higher degree of complexity at a lower level. In particular, a connected environment will increase the volume of information available meaning that soldiers will need the ability to effectively sort and analyse those information feeds. A constrained environment means that soldiers must be capable of a range of different tasks and types of operations, and will therefore need to be capable of effectively transferring or repurposing their training and understanding into a perhaps unfamiliar situation. Increased lethality, and the challenges with identifying combatants that occur as a result of the environment being crowded, mean that instinctive or reactive decisions will be less appropriate. So, to succeed in the future operating environment, soldiers will need to effectively think through a wider range of factors or considerations when solving problems. The additional complexity resulting from increasing technology, information volume, challenges with identifying combatants, and wide-ranging mission types means an increased need for thinking at the tactical level, and therefore an increased requirement for soldiers to be educated for more highly developed thinking skills.

The **third intellectual skill** that Army educates for is decision-making. The primary argument for soldiers needing decision-making skills is again centred on Army's philosophies. The core Army value of "initiative", which is defined as "readiness and ability in initiating action"²⁹, requires the ability to make decisions. Manoeuvre theory "focuses commanders at every level on exploiting enemy weaknesses, avoiding enemy strengths and protecting friendly vulnerabilities ... [and] draws

its power primarily from opportunism – taking calculated risks and the exploitation of chance circumstances and of forced and unforced errors”.³⁰ The application of Army’s philosophy cannot be effective if soldiers aren’t able to make decisions. This is reinforced in the Employment Specification, which states that JNCOs “must be able to make quick, sound tactical decisions when confronted by enemy forces”.³¹

In a recent post discussing modern military leadership, General [McLachlan](#) (COMD Forces Command) also reinforces this requirement saying “the operating environment is complex and ambiguous, making centralised directive leadership less effective than well informed, decentralised decision making.”³² The key term here is well informed. As well as requiring a degree of knowledge, this implies an understanding of when a decision needs to be made, and an awareness of individual authority to make and implement a decision. Why is this important? Because “in today’s pace of war, any unnecessary tactical delay can be extremely costly to the military effort.”³³

While current Army doctrine only specifies the need to educate for communication, thinking and decision-making skills, there may be other intellectual skills that Army’s soldiers need, now and in the future. For example, soldiers (particularly WOs and SNCOs) need the ability to ‘advise’. In many situations, the soldier is not the decision-maker. However, by virtue of their “accumulated training and experience, NCOs are called upon ... to provide advice and make recommendations to peers and senior leaders on issues and matters that serve its broader strategic goals and interests”.³⁴ In these situations, soldiers must understand decision-making processes, challenge unconscious biases and heuristics, and be able to exert appropriate influence on the decision-maker. Another option is the ability to ‘contextualise’,³⁵ adapting existing knowledge and understanding to unfamiliar situations. A further option is the ability for soldiers to manage and direct their own ‘learning’. Detailed consideration is needed to confirm whether the current doctrinal specification for intellectual skills needs enhancement, and whether additional educational focus is required to develop these skills.

What Knowledge is Required for Intellectual Skills?

In order to exercise intellectual skills *in a military context*, soldiers need an appropriate knowledge base. That is, a knowledge and understanding of the profession of arms and, in Army’s case, land power. This detailed knowledge is important because it provides “an intellectual architecture for battlefield success.”³⁶ Soldiers, like all professionals, base their decisions on a Professional Body of Knowledge ([PBK](#)), and a broader stronger base is likely to generate higher quality decisions and follow-on action.

The debate on knowledge 'needs' generally centres on how much knowledge is required and when. Two factors seem to come to the forefront. Firstly, there is concern about individual cognitive capacity – the idea that it's not possible to know everything. The second concern is linked to time. Any requirement to know "more" leads directly to a need to allocate additional time to the pursuit of that knowledge, and this detracts from the time available to do other things. Time, effort and dollars spent on acquiring more knowledge means that these resources are not being spent on other, potentially more relevant or important, activities such as foundation warfighting skills, basic trade skills, and collective training.

So how much professional knowledge is needed, and of what subjects? Clearly, soldiers need implicit (practical) knowledge of their area of expertise or trade. This requirement is not under debate. **The question is how much "supporting" explicit (theoretical) knowledge is required.** To illustrate, is it enough for an infantry JNCO to know about dismounted tactics in a platoon environment (practical knowledge), or does that JNCO need a broader knowledge of things like culture, politics, the strategic environment or the theory of war? The views of military thinkers vary widely.

There is support for a wider knowledge base for soldiers, and NCOs in particular. Writing in 2009, US Army Lieutenant Colonel Maxwell states that: "The NCO should have general skills, including the ability to evaluate people and information and to communicate effectively. The NCO must understand large and complicated situations. Seeing the "big picture" means making cognitive connections and balancing its diverse components. Further, he must understand technical, organizational and social relationships. This requires some degree of socio-political sophistication. Enlisted leaders must adapt to political and technical situations while adhering to the Army's traditions, doctrines and missions. They must be aware of the joint and international nature of military planning and operations and be free from Army parochialism."³⁷

Further support for a wider knowledge base is linked to the NCO/WO task of providing advice. "NCOs must appreciate the frames of reference and approaches that commissioned officers employ so that they will be able to understand a situation from the same perspective as a commissioned officer and contribute within an expanded range of activities. It is not that the Army is trying to turn NCOs into officers; it is simply a matter of having leaders with a common perspective and understanding."³⁸ The potential for NCO to step-up into platoon command positions also supports the need for a wider knowledge base.

What will the future mean for soldier knowledge needs? The 2016 [Defence White Paper](#) highlights specialised education, higher levels of cultural understanding and language training as important for the future ADF³⁹. This implies a wider knowledge base than that currently required of soldiers, and a focus on more than the profession of arms. In order to communicate, think and decide in the operating environment described in the FLWR, and in FOE 2035, analysis suggests that soldiers will need knowledge of subjects that provide context, like: culture, languages, civil-military relationships, geopolitics, information management and technological advances. The constrained nature of the future operating environment means that soldiers will need to be capable of effectively completing a wide variety of missions or tasks, and therefore knowledge relating to these tasks (and their context) will also be needed. While the future environment should make distribution of knowledge more effective, there is no doubt that the volume of knowledge that soldiers will need is greater.

An appropriate knowledge base is, and will continue to be, a critically important architecture which supports a soldier's ability to operate effectively. In the current environment, soldiers need to acquire an appropriate knowledge and understanding of the PBK. But greater breadth and depth of knowledge, in addition to the PBK, will be needed for soldiers to succeed in the future operating environment.

HOW CAN ARMY MEET THIS NEED?

All members of a military institution must balance the vocational (or training) elements of their profession with development of their intellectual capacity. Even the most junior soldiers must continue to hone their intellectual capacity. This underpins tactical innovation and adaptation. But it also allows all members of military organizations to better understand the intent or rationale of missions and tasks; this underpins effective implementation of mission command. (Brigadier Mick [Ryan](#), DG TRADOC, via the Modern War Institute)⁴⁰

It is apparent from the analysis above that the operating environment of the future will demand more from our soldiers in terms of intellectual skills, military knowledge, and supporting contextual knowledge and understanding. By logical extension, we need to educate for enhanced intellectual ability and a broader knowledge base in our soldiers. How do we do this?

A Solution

The first step is to define the intellectual skills and knowledge that soldiers will need to succeed **in the future operating environment**. ‘The Basics’ must expand beyond physical actions into the mental processes that soldiers will need, and the professional knowledge and contextual knowledge that will be required. It is important that this requirement is carefully framed in a vision of future (and not current) conflict, providing an ‘aiming point’ for a steady evolution of an education system.

Once these requirements are defined, Army needs to take specific action to educate military professionals who can fulfill these new requirements. This might involve a change to educational entry standards, but is more likely to involve changes in the *content* of education programs and in *how much time and emphasis* is allocated to those programs. Change should **not** be limited to educational activities in Army’s training establishments. More targeted use of the education programs identified earlier in this paper is an option. The development and implementation of additional education opportunities and requirements at the organizational level is an option. Formal, semi-formal and informal activities initiated by training establishments, units and individual soldiers are also options. Army needs to deliberately work to educate for the enhanced intellectual skills and broader professional and contextual knowledge base that will be needed to succeed in the future operating environment.

CONCLUSION

There is no question that Army needs soldiers with sound intellectual skills and an appropriate knowledge base. As education is key to developing these skills and knowledge, soldiers need education. There is debate over the standard of those intellectual skills, the breadth of the knowledge base, and whether current requirements will be sufficient to deal with the future operating environment. On balance, our images of future warfare suggest that the soldier of the future will need a wider range and higher standard of intellectual skills, and a broader professional and contextual knowledge base. In order to generate these skills and knowledge, and to meet the demands of an operationally and technologically complex future, Army will need better educated soldiers.

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² Chairman of the Joint Chiefs of Staff Instruction 1805.01B *Enlisted Professional Military Education Policy* dated 15 May 2015

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- ⁵ Australian Army, *Land Warfare Doctrine 7-0, Training and Education*, Commonwealth of Australia: Puckapunyal, 2015, Chapter 3
- ⁶ All Corps Other Ranks Specifications including Career Guidance for All Corps Soldier (Amendment 08) dated 27 Jul 16, para 7. Available on the Defence Protected Network only.
- ⁷ Western Australia mandates completion of Year 12, and the Tasmanian government has tabled proposed legislation to mandate completion of Year 12.
- ⁸ All Corps Other Ranks Specifications including Career Guidance for All Corps Soldier (Amendment 08) dated 27 Jul 16. Available on the Defence Protected Network only.
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