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Professional Military Education - An Indian Experience



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FOREWORD

Character of warfare being dynamic and ever changing, the parameters of Professional Military Education (PME) too need to be tuned accordingly. Thus even if the fundamental aspects of warfare remain sacrosanct, there is also the continuous need for the Indian military institution to assimilate the ever-changing developments in technology, tactical nuances of counter-insurgency and counter-terrorism operations, civil-military relations, disaster management, peace keeping operations, internal security duties etc.



The Indian military institution, like other armed forces all over the world, invests heavily in terms of infrastructure, time, energy and funds to train and educate its military leadership at all levels. Indeed, with two different adversaries active along the northern and western borders over vastly different terrain conditions, challenges of internal security, and routine turnover of deployments in different operational areas, it needs astute management to organise coverage of the wide range of training and educational curricula of the Indian military leaders. As officers grow in rank and service, the requirement of training and education too keeps changing. PME therefore has two key components: train for certainty and educate for uncertainty. The right ratios of these two components need to be carefully calibrated at each stage of the officers' service.

As they progress from tactical leadership to the strategic level, PME needs to cover wider horizons of expertise and conceptual flexibility that imparts to them the necessary competence in handling macro issues in strategic backdrop. Accordingly, the curricula at the War College and National Defence College focus on strategy, insightful thinking, writing and communicating, and the nation's system of

governance that the higher military officers will need to imbibe. However, considering the mandate and the numbers involved against the limited capacity of these institutions, there is a need to upgrade the educational avenues and thus make it possible for larger number of officers to enhance their professional competence.

In this Monograph, the author, an astute military theorist, has carried out a detailed study on the existing scope as well as methods of PME in the Indian military establishment, and has suggested measures to upgrade it according to contemporary needs in the Indian context.

I am sanguine that the readers would find this paper of high professional interest.



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September 2017

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Introduction

“The society that separates its scholars from its warriors will have its thinking done by cowards and its fighting done by fools.” - Thucydides

Professional Military Education (PME) has always been a critical component of developing military leaders. It is based on two key principles: train for certainty, so that military personnel gain and master the skills needed for known tasks and educate for uncertainty, so that they have the broad base of knowledge and critical thinking skills needed to handle unanticipated and unpredictable situations.

Military professionals continue to face a “volatile, uncertain, complex and ambiguous (VUCA)” operating environment today and they need to be adaptive and agile in both thought and action. Within such an environment, understanding how military leaders develop as professionals has become more important. We invest today in education to prepare for the conflicts of tomorrow. The role of PME is to provide the education needed to complement individual training, operational experience and self-development to produce the most professionally competent individuals possible.

Military's excellent PME system provides instruction that is indispensable to our future success. The system offers remarkable opportunity for officers at various stages of their carrier, to take time out from their normal job, gain exposure to national security issues and interact with others from different branches of the Government.

The global security environment is experiencing rapid changes. Emergence of the 'new sciences' provides a unique opportunity to improve cognitive agility when confronting complex adaptive systems. There is also an urgent need to acknowledge and enhance the intangible dimensions of professional military education beyond mere content centric subject expertise. There are a number of opportunities available for modernising the professional military education. It is essential to periodically review the entire system for holistic effectiveness.

The Indian Army has a very large number of educational and training institutions. It has a strong, established system of Professional Military Education program that seeks to provide the right Soldier with the right education at the right time. For the officer corps, this PME program is ingrained from pre commissioning through promotion to General Officer. This paper will critically look at the PME of the Indian Army. At the macro level most of the issues are similar for the Indian Navy and Indian Air Force.

Historical Background

"I feel a fundamental crippling incuriousness about our officers... With 2,000 years of examples behind us we have no excuse, when fighting, for not fighting well."

- T. E. Lawrence in a letter to B.H. Liddell-Hart

After Catastrophic defeat of Prussia in 1806 by Napoleon, Prussian senior military leadership created a program to educate a small group of officers who could provide a systematic and coherent approach to war. This was start of PME. Prussian system proved its worth in 1866 and 1870 under Helmuth Von Moltke, Chief of the General Staff when Austria and France were defeated. The Prussian model was copied by all major European Armies, Staff Colleges proliferated across the continent.,^{1,2}

By the outbreak of World War I, every major power adopted education as a major component of military professionalism. Gerhard Von Scharhorst started reform of Prussian Army and became the educator of a new generation of officers many of whom were destined to play a great part and form the nucleus of the Prussian General Staff. Prussian General Staff had four major sections; strategy and tactics, internal administration, reinforcements and artillery and munitions.³ Concept of the Profession Military Education was one of the main driving force for the creation of Prussian General Staff. The idea was to cultivate "thinking combatants ... and a thinking officer corps and staff system honed by Bildung - systematic professional study and the cultivation of decision making Skill".

¹Goerlitz, Walter, History of the German General Staff, 1657-1945. New York: Praeger, 1953.

²Halborn, Hajo, "The Prusso-German School: Moltke and the Rise of the General Staff." In Makers of Modern Strategy: From Machiavelli to the Modern Age, ed. Peter Paret, 281-95. Princeton: Princeton University Press, 1986.

³Lewis, S. J. "Reflections on German Military Reform." Military Review, (August 1988), 60-69. Reprinted in H200: Military Innovation in the Interwar Period, 187-93. Fort Leavenworth: US Army Command and General Staff College, September 2007.

After World War I General Hans Von Seeckt as Chief of German General Staff was under severe restrictions imposed by the Treaty of Versailles. To maintain a high level of officer education Von Seeckt instituted a ruthless selection process which tested applicants on not only military sciences, but languages, political science, history, knowledge of railways and communications and other subjects. Seeckt established no less than 57 different committees to examine what happened in the battlefields of 1918. He gave them specific tasks for concise studies to consider :-

- What new situations arose in the war and had not been considered before the war?
- How effective were prewar views in dealing with the above situations?
- What new guidelines have been developed from the use of new weaponry in the war?
- Which new problems put forward by the war have not yet found a solution?

The Germans thoroughly examined the tactical and operational lessons of the last conflict and translated them into coherent, flexible doctrine and ensured that future general staff officers understood the doctrine. Serious study, writing, professional military education was part of the transformation process of German Army in Inter War period. Two outstanding books authored by two of the most brilliant exponents of warfare in Second World War, Erwin Rommel's *Infanterie Greift An* and Heinz Guderian's *Achtung Panzer* were published in 1937.⁴

It was not only Germans that used education to innovate effectively and intelligently in the face of complex technological and tactical change. In the United States the Naval War College played a crucial role in developing carrier aviation. Similarly, Army Schools like Infantry School at Fort Benning, US Army Command and Staff College and US Army War College, all helped create an adaptive and innovative officer corps. The Americans

⁴Jason M. Bender, Non-Technical Military Innovation: The Prussian General Staff and Professional Military Education, *Small War Journal*, 14 Sep 2016, Available online at : <http://smallwarsjournal.com/jrnl/art/non-technical-military-innovation-the-prussian-general-staff-and-professional-military-educ>

placed due importance to people posted to the faculties of PME institutions. A large number of exceptional senior officers who played leading roles during World War II served on the faculties of PME institutions.⁵

As the Germans encouraged debate, study and honest experimentation in their preparations for war the British and French armies often stifled innovative thought by frustrating the progression and education of some officers and outright ignoring the thoughts and writing of others. The British Army failed to establish a committee to study the lessons of the last war until 1932. Then when its critical report came in, Chief of the Imperial General Staff Field Marshal Sir Archibald Montgomery-Massingberd deep-sixed the study and replaced it with one that presented a far more favourable (and unrealistic) view of how the British Army had performed in World War I.⁶

However, history records victory in strategic column. The Germans for all their battlefield success in the initial stages of World War – II ultimately failed in strategy and achieving national objective. Same happened to USA in Vietnam.⁷

Training vs Education

“Education is the kindling of a flame, not the filling of a vessel.” -Socrates

Training is used when the goal is to prepare a leader to execute specified tasks, often includes repetition of tasks. Education has more to do with how to think about problems and how to deal with those things that may not lend themselves to outright solutions. It is a matter of intellect, thought, an indirect leadership, advice and consensus building. Training is useful, it prepares students for the unknown. Task of Defence Services Staff College (DSSC) and higher training establishments is education which prepares students for the unknown through the development of impressed critical and creative thinking. Professional army officer must know the

. Knox, MacGregor. “Mass Politics and Nationalism as Military Revolution: The French Revolution and After.” In *The Dynamics of Military Revolution, 1300-2050*, eds. MacGregor Knox and Williamson Murray, 57-73. Cambridge: University Press, 2001.

. Military Education, U.S. Army War College, Joint Forces Quarterly, Spring 1998.

. Fitzsimonds, James R. and Manhken, Thomas G, “Exploring Institutional Impediments to Innovation.” Joint Forces Quarterly 56, 3rd Quarter, 2007, pp 96-103. Available at : http://www.ndu.edu/inss/Press/jfq_pages/editions/i46/15.pdf

fundamentals of tactics, technology and leadership. Learning must be a life-long process.

Military operations are divided into three levels of warfare – Tactical, Operational and Strategic. Figure 1 depicts this levels and the associated training establishment that an Indian Army officer goes through to perform his professional tasks. Initial portion of an officer's development must focus on training with the component characteristics of physical strength, courage, direct leadership etc. As the officer progresses the educational demands of the profession grow and intellectual component increases. The cross over point is profile when he completes DSSC at Wellington.

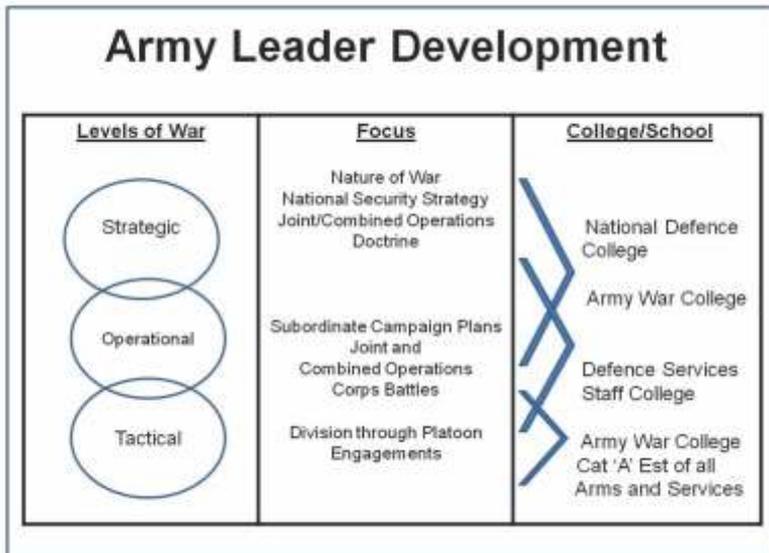


Figure 1. Levels of War and associated training establishments

A training solution cannot be achieved without an educative framework to support learning. The Army trains its personnel to respond instinctively to tactical threats and to constantly repeat desired responses with a high degree of accuracy, individually and in teams. However, when potential threats are unknown or yet to be experienced and recorded, the appropriate response to this threat cannot necessarily be trained. Educated soldiers have the skills needed to adapt to new and unfamiliar situations. There are a number of misconceptions with regards the distinction between training, education and learning. The desire to separate for

It is important then to examine how these lessons are reflected in the current practices and culture of the Army. While one former US Army War College Commandant noted that the Army was “too busy to learn,” the issue is more insidious.¹⁰

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Strategic Corporal: Counter-Insurgency/Counter-Terrorism Operations (CI/CT Ops)

“The new military needs soldiers who use their brains, can deal with a diversity of people and cultures, who can tolerate ambiguity, take initiative, and ask questions, even to the point of questioning authority.” - Alvin Toffler

The term strategic corporal refers to the devolution of command responsibility to lower rank levels in an era of instant communications and pervasive media images. In military circles, the basic premise underlying the idea of a strategic corporal is a general belief that future operations will be more complex in character and will require an increased level of junior leadership.¹²

Level of responsibility for critical decision making in the services continues to drift downward. Today Junior Commissioned Officers (JCOs) and Non-Commissioned Officers (NCOs) make strategic decision in CI/CT Ops areas that used to be done by officers in earlier days. JCOs and NCOs must be educated as well as trained for this new kind of war. Young officers leading tactical units deployed far from higher headquarters are making decisions that have far reaching strategic implications. We teach soldiers to shoot, but do we teach them when to shoot and when not to?¹³

¹⁰Robert H. Scales, “Too Busy to Learn,” Proceedings 136, no. 2/1 (February 2010), 284, available at www.usni.org/magazines/proceedings/story.asp?STORY_ID=2195.

¹¹Robert H. Scales, “Too Busy to Learn,” Proceedings 136, no. 2/1 (February 2010), 284, available at www.usni.org/magazines/proceedings/story.asp?STORY_ID=2195.

¹²Gen. Charles C. Krulak, “The Strategic Corporal: Leadership in the Three Block War,” Marines Magazine (January 1999) available at: http://www.au.af.mil/au/awc/awcgate/usmc/strategic_corporal.htm

¹³Special Edition, International Relations in Professional Military Education, Infinity Journal, January 2016.

In addition to traditional war fighting army leaders at all levels should be able to deal with increased political and cultural complexities of CI/CT Ops, Peace keeping operations and more. Our young officers are routinely thrust into volatile, uncertain, complex and ambiguous situations in which more is demanded of them in terms of intellect, initiative and leadership than was normally seen in conventional operations. We have to prepare the officers for CI/CT Ops and enhance the critical thinking skills of junior officers as these are important for preparing them for today's operational environment. Senior officers must deal with complex transnational threats, weapon proliferation, drug trafficking, assistance to civilian authorities, cyber war and proxy war.¹⁴

Consider the scenario. An officer gets critically wounded while leading operations against the most wanted terrorist in the Valley. Women and Children come out on the road and prevent medical evacuation of the officer. Or while the operation is in progress a mob collects and start stone pelting and hinder the operations of the Army and help the terrorists to get away. What does the Army do? Does it open fire to evacuate the injured soldiers where women and children would be casualties. Is it time to consider use of Non-Lethal Weapons specially by forces like Rashtriya Rifles. Are we discussing such issues in our training establishments.,^{15,16}

Educating the Strategic Leader

“People cannot be trained to be strategist, but they can certainly be educated so as to improve their prospects of functioning adequately or better in the strategic role.” - Colin Gray

Strategic Leadership has been defined by the US Army War College as “The process used by a leader to affect the achievement of a desirable and clearly understood vision by influencing the organisational culture, allocating resources, directing through policy and directive, and building consensus within a volatile, uncertain, complex, and ambiguous global environment which is marked by opportunities and threats.” General John Galvin, former Supreme Allied Commander in a testimony before the House Armed

¹⁴Matthew F. Cancian, Officers Are Less Intelligent: What Does It Mean?, Joint Force Quarterly, March 29, 2016.

¹⁵Brig P K Mallick, Asymmetric Wars – Lessons from Recent Conflicts and Its Relevance to India, PINNACLE, Vol 8, Jun 2009.

¹⁶Col P K Mallick, Combat Leadership in 21st Century, COAS Gold Medal Essay Competition 2005-2006, second prize, USI Digest Mar 2006 – Aug 2006 and Sep 2006 – Feb 2007.

Services Committee said, “We can find plenty to read and study on the subject of leadership in fact, there is a veritable mountain of studies, essays and books explaining how to build leaders. Not so if one wants to build or become a strategist.”¹⁷

The enabler of strategic thinking are: broad knowledge, communication, collaboration, self-awareness and risk taking. Strategic thinking competencies can be categorised as: learning, information gathering, system thinking, creative thinking and thinking in time. Military education of strategy and strategists must be capable of dealing with emerging security challenges of the twenty first century. Military officers, who sit at the conference where strategic decision are made, must have the education required to put operational objectives and obstacles into the context of the larger strategic environment. This will not come through tactical excellence, pilot training and time at sea. Education alone also will not suffice, but it would help. What it takes to be operationally successful can be very different from what it takes to be a strategic, critical thinker.¹⁸

By definition, nearly all officers who are promoted to one-star rank have excelled at some level of operational responsibilities. Many flag officer appointments demand not operational skills, but the rather different talents required to manage a massive and complex defense bureaucracy. Many of the officers who serve in such positions simply do not have the educational background or practical experience necessary to effectively manage the highest levels of the defense enterprise and the sometimes peculiar economics involved.¹⁹

Those who demonstrate exceptional brilliance and whose capacity for higher level strategic leadership is exemplary should be afforded opportunity to expand their knowledge. Staff and War Colleges would focus on intellectual merit. A specialist course could be based on examination as the vacancies would be limited. The pedagogical model for such courses could be based on already existing models of School of

¹⁷S Thomas P. Galvin, *Enhancing Identity Development at Senior Service Colleges*, Strategic Studies Institute and U.S. Army War College Press, December 2016.

¹⁸Williamson Murray, “Grading the War Colleges,” *The National Interest*, no. 6 (Winter 1986–87), pp.12–19.

¹⁹Admiral James Stavridis gave his take on the difference in his 2011 commencement address at National War College available at <http://www.aco.nato.int/saceur/read-think-write.aspx>

Advanced Military Studies at the intermediate level and Advanced Strategic Art Program at the senior level at US Army War College.

Armed Forces all over the world have struggled to find right kind of strategic leaders for their top echelons. Maj. Gen. Robert H. Scales, an Ex Commandant of the U.S. Army War College, recently wrote a very interesting paper. He wrote:

“This would be a fine system if tactical genius and strategic genius were related. But experience has shown that great tactical skill does not equal great strategic skill. In fact, tactical and strategic genius are unrelated. Officers with potential for strategic leadership are morally as well as physically brave. They may not be able to make the convoys run on time, but they have a special talent for seeing the future and conjuring a battlefield that has yet to appear. These are young men and women who are intellectually gifted. They can think critically. They are more interested in studying warfare than practicing it.”

Tactically talented officers can move hundreds. Strategically talented officers can maneuver hundreds of thousands, if not millions. Tactically talented officers know how to fight enemies they know. Strategically talented officers are prepared to fight enemies yet unforeseen. The tactically talented read the manuals and put existing doctrine into practice. Strategically talented officers continually question doctrine and eventually seek to change it. Tacticians see what is; strategists conjure what might be. Not every officer promoted to flag rank needs to be a professional strategist.^{20,21}

A recent RAND Corporation report²² identified seven lessons from recent past the problem areas of strategic leaders. These are as follows:

²⁰Maj Gen Robert H. Scales, Are You A Strategic Genius?: Not Likely, Given Army's System for Selecting Educating Leaders available at : <http://strategicstudyindia.blogspot.in/2016/11/are-you-strategic-genius-not-likely.html>

²¹David Barno, Building Better Generals, Nora Bensahel, Katherine Kidder and Kelley Saylor, October 2013, Center for New American Security.

²²Linda Robinson, Paul D. Miller, John Gordon IV, Jeffrey Decker, Michael Schwille, Raphael S. Cohen, Improving Strategic Competence: Lessons from 13 Years of War, RAND Corporation, Santa Monica, Calif. 2014 available at http://www.rand.org/content/dam/rand/pubs/research_reports/RR800/RR816/RAND_RR816.pdf

- A deficit in the understanding of strategy.
- Deficits in the process for formulating strategy.
- A failure to incorporate the essential political element of war into strategy.
- The inability of technology to substitute for the sociocultural and historical knowledge needed to inform understanding of the conflict, formulation of strategy, and timely assessment.
- A failure to plan, prepare, and conduct stability operations and the transition to civilian control, as well as belated development of counterinsurgency capabilities.
- Insufficient emphasis on shaping, influence, and noncombat approaches to addressing conflict.
- Inadequate civilian capacity and inadequate mechanisms for coordinated implementation among joint, interagency, and multinational partners.

Military professional cannot limit advice to preferred courses of action for employing weapon systems. As an expert in violence he should anticipate how destruction might affect political outcomes. Recent experiences show that military force is insufficient in itself to achieve all political goals. Effective military support requires that military leaders learn how to participate effectively in the dialogue necessary to better align ways and means with desired ends. They must take time to build relationships and trust in a chaotic and frantic decision making process, learn how to socialise ideas, must consider how to provide best military advice as part of holistic strategy to achieve national objective.

Study of Politics, Military History, Sociology and Ethics

In today's changed and complex environment study of the subjects like politics, history, social sciences, ethics should get added emphasis.

Politics

It is said: 'The army does not pick its wars, the nation's civilian leaders do'. Strategic leaders have to appreciate the central role politics play. In war politics includes economic, social, cultural, psychological and ethical dynamics that determine power distribution. Separation between violence

and politics is counterproductive. The effort to remain a political may lead military members to avoid the necessary political education and awareness. Political science introduces new and empirically tested perspectives about how conflicts and wars manifest, unfold and conclude throughout space and time.²³

Yet if political literacy is critically necessary, it is also ubiquitously absent. A 2012 Joint Staff report found that the U.S. military's number-one shortcoming during this century's first decade of war was "a failure to recognise, acknowledge, and accurately define the operational environment," including "not only the threat but also the physical, informational, social, cultural, religious, and economic elements of the environment." The blurry line between policy and strategy requires both civilians and the military to engage in a dynamic, iterative dialogue to make successful strategy, but that often failed to occur.

Military professionals must cultivate political literacy. In General Lloyd Austin's words, officers must have a nuanced appreciation for "the political, economic, and socio-cultural currents" that drive attitudes and behaviors.²⁴

Military History

B.H. Liddell Hart,²⁵ wrote that history is: the record of man's steps and slips; it shows us that the steps were slow and slight; the slips, quick and abounding. It provides us with the opportunity to profit by the stumbles and tumbles of our forerunners. An awareness of limitations should make us chary of condemning those who made mistakes, but we condemn ourselves if we fail to recognise mistakes. Study of Military History provides a commander with a core of background knowledge and understanding that allows him to form and reform his vision of the battlefield beyond the realm of his combat experiences. Planning games and war-games, field trips, and exercises are excellent tools for improving the quality of

²³Celestino Perez, Strategic Discontent, Political Literacy, and Professional Military Education, January 14, 2016. Available at : <http://thestrategybridge.org/the-bridge/2016/1/7/strategic-discontent-political-literacy-and-professional-military-education>

²⁴Celestino Perez, Jr., Strategic Discontent, Political Literacy, and Professional Military Education, January 14, 2016 available at : http://thestrategybridge.org/the-bridge/2016/1/7/strategic-discontent-political-literacy-and-professional-military-education#_ftn3

²⁵B.H. Liddell Hart, *Why Don't We Learn from History?* (New York: Hawthorn Books, 1971), P15.

operational and tactical training. However, only the study of military history can provide insights into all aspects of warfare.

The future operational commander must fully understand the political strategic objective and strategy and policy before he can start to understand various aspects of operational art. That understanding and knowledge can essentially be acquired only through the critical study of past wars and major operations and campaigns. Because few commanders have experience commanding forces at the operational level, the best way to educate them to think operationally is through the study of the successes and failures of great military leaders. Hence, military history should be studied in depth. One should read everything available on the subject. This means that not only official histories should be studied but also memoirs, autobiographies, letters, diaries, and even historical fiction. Only in such a way can one hope to learn what really happened.

Edward N. Luttwak has charged that "military history — the only possible 'data base' for those who would understand war — is treated in a perfunctory manner as one among many" at the academies. So far as the command and staff colleges are concerned, according to Luttwak, "there also military history is treated as if it were a marginal embellishment instead of... the very core of military education"^{26,27}

Social Science

As Armed Forces increasingly become people oriented in addition to being technologically deterministic, the social and behavioral sciences are showing increasing importance. Complex mix of sociopolitical factors that pose real world challenges for commanders receives very little attention. There is a distinct aversion to social science in military circles. Sociology adds value to academic institutions in general and sociological knowledge provides utility in preparation of future military officers.

Ethics and Values

Arguably, no topic is more important and no topic more difficult to teach

²⁶Michael Howard, "Military History and the History of War," in *The Past as Prologue*, p 12.

²⁷MILAN VEGO, *Military History and the Study of Operational Art*, *Joint Forces Quarterly*, issue 57, 2d quarter 2010.

than ethics. Ethics and ethical behaviour are fundamental to what our nation expects of its people in the Armed Forces.,^{28,29}

Civil Military Relation

This is one of the most critical issues in today's environment. This should be deliberated upon in great details.

Strategic Communication

In our PME curricula the emergence of information as a key strategic element in 21st century battle space does not get adequate importance. Officers should be able to use effectively information management tools.

Use of Technology

Cognitive Decision Making

Modern information technology and associated social media provide the opportunity for sharing information across wide populations. The ability to navigate the digital world assists learning. Blogs and other social media contribute to peer-based learning and broader discussions in today's classrooms. Army leaders must leverage this capability to build dynamic vertical and horizontal social networks for formal and informal information sharing.³⁰

Cognitive decision making process must be understood. How to make right decision in the midst of mountain of information will be a key factor. Today conflict throws complex challenges to commanders. Commanders would be required to show unique intuitive sense of how to transit very quickly from active, kinetic warfare to a more subtle kind of warfare distinguished by the ability to win the war of will and perception. It is difficult to find leaders who can fight competently in both and can transit seamlessly.

It is often found that most unlikely commanders perform well in the heat of

²⁸Brig P K Mallick, Ethics, Values, Morality and 21st Century Warfare, TRISHUL Journal , Vol No 2, Spring 2008.

²⁹FRANK G. HOFFMAN, "Embracing a Full Spectrum Profession," Keeping the Edge: Revitalizing America's Military Officer Corps, Center for a New American Security, February 2010.

³⁰TRADOC Pamphlet 525-8-2, THE U.S. Army Learning Concept for Training And Education 2020-2040, 13 April 2017.

the battle. Soldier's lives had to be expended to find these commanders. But today learning science offers the ability to identify those who can take decisions intuitively in the heat of the battle. What the Germans called the gift “fingerspitzengefühl” or finger-tip sense. The Armed forces must exploit science by conducting research in cognition, problem solving and rapid decision making in uncertain, fearful and ambiguous situations. Those with the right material then could be picked up for furthering their decision making skills before leading troops in combat.

War-gaming. Students devote a fair amount of time reading, writing and talking about decisions, but not much time actually practicing how to make them. To address this education gap, professional military education institutions should re-emphasise the relevance of war-gaming to prepare officers for addressing tomorrow's complex problems. War gaming methods can be extremely useful pedagogical tools, representing a sort of “intellectual cross-training” that encourages students to think about problems in different ways and address the challenge of agile adversaries and complex, adaptive, social and political systems. Gaming has flaws like any other analytic method, but it is a powerful learning tool that warrants wider consideration.³¹

Simulation. Technology is providing mission planning and rehearsal systems. Simulations and associated technology continues to improve, due in part to the tremendous growth within the gaming industry. Leaders can rehearse the operation in simulation in multiple ways by changing key variables. In the classroom, simulations will allow leaders to do more than just develop a plan; simulations will allow them to execute the plan to help them see the strengths and weaknesses of their plan. Leaders can further develop their intuition by executing the plan interactively, changing variables with each iteration. The next training revolution will be empowered by the growth in realism and ease of use of games, 3-D mapping, artificial intelligence and advanced simulations. In the information age, leaders who instinctively, quickly and confidently recognise the right course of action to take when faced with a situation must be developed.

³¹<http://www.benning.army.mil/mcoe/maneuverconference/2012/presentation/ppt/GENCon e.ppt>

Learning Technologies

Blended Learning. The trend in higher education is towards increased blended learning. Advances in technology, specifically in the increase in bandwidth, have opened new possibilities in online learning. Synchronous blended learning takes place in real time, often including a video lecture followed by audio discussion. Through synchronous blended learning, students are able to: listen to each others' voices, conversational tones, and emotional expression; correct misconceptions; engage spontaneously; get more personal and real-time attention; share differing perspectives and develop a sense of community.

Massively Open Online Courses (MOOCs). Since the 1990s, MOOCs have offered web-based learning on a large scale and with open access, facilitating learning for unlimited audiences at no cost or minimal charge. MOOCs are a resource for professional development and life-long learning.

Flipped Classrooms. In a traditional instructor centered classroom, the trainer delivers lectures during class and gives trainees tasks to be completed after class. In a flipped classroom, passive learning activities, such as unidirectional lectures, are pushed to outside class hours. The trainer delivers lectures before class in the form of pre-recorded videos or podcasts and spends class time on learning activities that involve collaboration and interaction. Not only does this require students to take responsibility for their own learning, but it frees up valuable class time for inquiry based tasks and greater interaction between trainers and trainees.

Learning Analytics. Educational technologies allow trainers to capture and store trainee interactions with their online learning activities. This data can then be 'mined' and analysed to identify patterns of learning behaviour that can provide insights into education practice and inform pedagogy and policy within education.³²

Distributed Learning. Learning is a life-long experience. Every learning opportunity should be crafted to ensure that the right methods, both pedagogical and methodological are used to give the military learner just

³²See <http://www.benning.army.mil/mssp/> for this very comprehensive approach to providing online resources for soldiers and officers to continue their professional development in their own time.

what is needed when it is needed using a suitable blend of site and web based delivery. Every soldier regardless of his affiliation to his parent arms or services or specialty should be given unfiltered and continuous access to the best and most inclusive programs of war studies. Contemporary distance learning technology allows the learning process to be amplified and proliferated such that every soldier can learn to his/her capacity and motivation. The latest distance learning technology also permits students to learn in groups, virtual seminars even when posted to remote areas.³³ Distributed learning leverages the power of information and communication technologies (such as, simulation, interactive media instruction, video tele-training, e-learning, and others) to deliver standardised training and education at the right place and time. It may involve student-instructor interaction in real time (synchronous) and non-real time (asynchronous). It may also involve self-paced student instruction without benefit of an instructor.

Distance education is a growing trend in civilian higher education and is already used in the professional military educational systems around the world. The distance education program at the U.S. Army War College, for instance, takes two years instead of the single year needed for the resident course, but graduates of the two tracks are considered equivalent.,^{34,35}

Challenges with Distributed Learning. Quality, development, and maintenance of the content for distributed learning are critical issues. Content development times often exceed the lifespan of the material, delivery of products that cannot be updated or maintained except by content development agency and content not amenable to bandwidth availability for online delivery are some of the problem areas. In addition, use of distributed learning is not typically as satisfying for leadership courses and does not provide the social benefits or professional

³³The Ryan Review A study of Army's education, training and doctrine needs for the future Brigadier Mick Ryan. Australian Army, April 2016.

³⁴Michael G. Shanley, James C. Crowley, Matthew W. Lewis, Susan G. Straus, Kristin J. Leuschner, John Coombs, Making Improvements to The Army Distributed Learning Program. 2012 RAND Corporation.

³⁵David Last, Picking Leaders for Professional Military Education, SSR 2.0 Brief, Issue NO. 6 | October 2016 Centre For Security Governance.

relationships as that encountered in resident PME.³⁶ Armed Forces should not ignore that not all of the current or future learners like learning on their own. Neither are all new soldiers digitally literate. Extensive use of social media might be seen as harassing and invasive.

In the academic year 2013–2014, the US Army War College started the process of students requiring to access course materials through mobile computing devices. Tablet computers have become as ubiquitous as notebooks (the paper kind) in seminar rooms, lecture halls and libraries and they routinely accompany students to the athletic fields. Faculty members are likewise getting more comfortable with the devices in and out of the classroom. On the negative side, some students and faculty are frustrated by the inherent limitations of mobile devices such as slow downloads, broken links, small screens and the quiriness of certain applications. The most important consideration in assessing the utility of mobile devices is their effectiveness as learning tools. A growing body of research suggests that electronic devices work better for readings that are short and descriptive rather than long and analytical. In the former case, the reader can glean the necessary information quickly and move on to another task. In the latter, reading comprehension may suffer from the inability to negotiate the text in an intuitive and tactile way. In the absence of definitive scientific answers, the War College should decide which academic materials are best delivered electronically or by the printing plant.³⁷

Distance Learning is already being implemented in some of the leading PME institutes of the world. Some of the examples are given at Appendix 'A'. Through better integration, technologies such as MOODLE, Blackboard, TED Talks, Academic Earth, Khan Academy and Massive Open Online Courses, offer Army the potential to change the balance of learning delivery from one that is currently best described as residential, learning push to one more finely balanced with non-residential learning pull approaches.

Indian Army should codify its strategy for the use of information technology in blended learning. It should develop a plan to implement distributed

³⁶Michael C. Sevcik, Army Learning Concept 2015: These are not the droids you are looking for, Small Wars Journal available at: <http://smallwarsjournal.com/printpdf/10812>.

³⁷TRADOC Pamphlet 525-8-2, The US Army Learning Concept for 2015, released 20 JAN 2011.

learning which exploits trials and takes into account Information Communications Technology (ICT) in training institutions, unit locations and the use of personal computing and communications devices by the personnel.³⁸

JCOs' and NCOs' PME

"If we should have to fight, we should be prepared to do so from the neck up instead of from the neck down."

- Jimmy Doolittle

Soldiering Skills

Future success on the battlefield depends on the Army's ability to leverage both kinetic and non-kinetic means to wage war. As the character of warfare changes soldiers are expected to be not only technically proficient in warfighting, but also capable of supervising civil affairs, providing humanitarian aid and manage disasters and performing a range of activities relating to aid to civil authorities. Our soldiers would be required to become highly skilled in their respective trades, proficient in their warrior skills and possessing language, cultural knowledge, cyber related skills as per requirement. As networked technologies flatten command structures, new doctrine and revised training regimes are likely to be required in order to prepare individual soldiers to assume greater responsibility on the multidimensional 21st-century battlespace. As a result of these trends, we must begin to foster a military culture that is aimed at preparing NCOs to become what has been described as 'strategic corporals'. The Army has long recognised the importance of the Officer Education System particularly at the senior officer level. It needs to do the same for the soldiers. How does the Army leverage education to improve noncommissioned officer professional development to achieve a better integrated and better synchronised career development program for noncommissioned officers?³⁹

³⁸Brig P K Mallick, Leveraging Technology in CI Ops, PINNACLE, Jun 2008.

³⁹U.S. Department of the Army, Training and Doctrine Command, Combined Arms Center, PowerPoint Briefing: Noncommissioned Officer Education System Transformation (Fort Leavenworth KS, Combined Arms Center, November 2005).

Every soldier enrolled in the Army has got a trade given by respective arms and services. There are approximately 159 trades in Indian Army. Out of these around 10% may be considered unique to the Army with no civilian equivalent career field. These are predominately in the combat arms branches. The remaining are in the combat support and combat service support branches. These are the mechanics that work on vehicles, heavy vehicles, helicopters, the engineers, the medical personnel, the communications and information systems specialists, the legal, military police, intelligence analysts, the finance and administrative specialist and logisticians. Consider the job of the typical Infantry soldier, the least technical person. In a conventional war, he must be a physically fit and tough, he must also know how to program a radio, accurately locate targets for calling airstrikes and artillery, calculate geometries of fire, among many other intellectual demands. In an unconventional conflict, he is a cultural expert, builder of bridges, shelters, playground, drip irrigation system. He is also capable of emergency aid in case of natural disaster. He operates in highly complex and within people in grey areas of counter insurgency and counter terrorist operations. This requires a high degree of intelligence.⁴⁰

Earlier the Army could set its own standards. Now the increased use of technology and demands of reemployment should drive the Army to tie its standards to civilian standards. With the Army adopting civilian standards for education and certification, it can leverage the work and analysis already accomplished by civilian agencies. This is not a small task. Each trade will need to be analysed. Some occupations require certification based on experience and skill competence, while others have more formal educational or certification requirements. Scuba divers and mountaineers fall into a category where a minimum amount of formal education is required, and individuals advance based on technical competence achieved through experience. Conversely, there are more formal education requirements required for electricians and mechanics. The education is reinforced through experience. There are some instances where military specialties have significant civilian utility but do not have a well-defined civilian equivalent. Recovery mechanics, operators of heavy duty plants can be some examples of this category.

⁴⁰Meghann Myers, The Army wants to pay for your civilian electrician, mechanic or any other credential, January 19, 2017, <https://www.armytimes.com/author/meghann-myers>

The National Skill Development Agency (NSDA) is an autonomous body under the Ministry of Skill Development and Entrepreneurship, Government of India, which coordinates and harmonises the skill development efforts of the Indian government and the private sector to achieve the skilling targets of the 12th Plan document and beyond.⁴¹ Government of India has enunciated its National Policy for Skill Development and Entrepreneurship 2015.⁴² In similar vein, the Confederation of Indian Industry (CII) report on 'India's Emerging Security Landscape: Challenges and Opportunities, 2014' spells out the various aspects of security skills initiatives.⁴³ As per published records, the number of country's private security personnel stand at approximately 7 million as against the total number of approximately 1.73 million police personnel – and the demand is still on the rise. Fueled by growing urbanisation (including the widespread growth of real estate), increasing vulnerability to terror attacks and shortage of police officers - the private security industry in recent times has seen a booming and profitable growth. India's economic development is expected to lead to creation of critical infrastructure such as roads, railways, ports, airports, power plants, mass transportation, smart & secure cities, etc. Protection of these assets is important to ensure sustainable economic development of the country. To bridge the skill gap the Security Sector Skill Development Council (SSSDC) has been set up as part of NSDC to up-skill the Private Security Sector (PSS).

In the present context, Private Security Agencies Regulation Act (PSARA) of 2005 is the only applicable regulation for the private security agencies. Though, the objective behind the implementation of the Act stands tall, the implementation for the same is riddled with gaps especially in terms of meeting the training parameters of the private security guards. The increasing importance for the industry has clearly caused an unbalance in the demand supply curve of the requirement for security man force. There is an urgent need for strict implementation of PSARA which will ensure that

⁴¹<http://www.skilldevelopment.gov.in/nationalskilldevelopmentcorporation.html>

⁴²<http://www.skilldevelopment.gov.in/assets/images/Skill%20India/policy%20booklet-%20Final.pdf>

⁴³http://www.nsdcindia.org/sites/default/files/files/pdf/Indias_Emerging_Security_Landscape_Pinkerton_8-2014.pdf

the private security industry is able to offset to a certain extent the manpower deficiency of the police force.

Indian Armed Forces must closely co-ordinate training activities for its people. With the vast and extensive training infrastructure, trainers, human resources the quantification and benchmarking of its training in line with that of standards set by National Skill Development Corporation would give wonderful opportunities to approximately 60,000 men who retire from army every year.

Professional Military Education at Unit Level

While traditional professional military education approaches see it delivered during formal courses and in self-study, there is great potential for unit-delivered professional military education.⁴⁴ It is the duty of the chain of command to train itself: leaders are responsible for the development of their subordinates. The Army system provides education and training opportunities but the overall development of subordinates is a leader's responsibility; they should not leave it down to 'the system'. Unfortunately, the role of commanders has until now mainly focused on training, with limited emphasis on professional military education. Those who have had a passion for professional military education have largely had to develop their own programs. To re-energise the conduct of professional military education leaders should be better equipped to fill this role.

In the day-to-day rush of training activities, preparations for operations, and governance activities, it is easy for cultures to arise that de-prioritise PME into oblivion. To lead professional military education, commanders must ensure the intellectual development of their people is valued and prioritised accordingly within their unit programs. It must be part of the normal unit battle rhythm. Time must be dedicated to professional military education. Those who demonstrate significant passion or achievement must be recognised—both publicly and in a unit's annual reports.

The intellectual development of military people cannot be restricted to officers. Professional education and development programs are to align

⁴⁴Mick Ryan, The Art of Leading Unit-Based Professional Military Education, Modern War Institute, March 29, 2017, available at : <https://mwi.usma.edu/art-leading-unit-based-professional-military-education/>

across Officer, JCO, NCO and Other Ranks' (OR) education and training. 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. PME must not be like writing lines or an essay as a punishment. It must possess variety and a range of interesting and fun activities that engage the curiosity of a broad range of soldiers and officers. In a busy Army it is possible for leaders to overlook the need for individual improvement to reach short term aims. A balance needs to be maintained between short term success and building for the future.

Analysis of Present System

"Never let your schooling interfere with your education." - Mark Twain

Rigours of Strategic Intellect

To successfully develop strategic leaders army cannot wait until the 25 years of service to educate them in security studies at the Army War College (AWC). That should be a part of the professional military education program from one's pre commission education, building continuously at each formal school, unit officer education and through continuing education. There is a requirement for life-long learning.

Some of the criticisms of the present system of PME are that those selected for Higher Command (HC), Higher Defence Management (HDM) and National Defence College (NDC) Courses are chosen based solely on job performance rather than for the excellences of their intellect. Central elements necessary to gain deeper understanding of the nature and character of war, military history along with war games and military psychology and leadership often are overlooked in an effort to teach every subject to every conceivable constituency to the lowest common denominator. The AWC tries to combine together contradictory goals of getting officers quickly trained and back into the system and developing them as well educated strategic thinkers. There is no prescribed academic standard for doing the course, no examination. No one fails, there is almost 100 percent success rate. Officers get a Masters' degree and certificate for doing the course which given him additional points for promotion. Any program with 100% success rate will have question marks on its academic rigour and value. What it takes to be operationally successful can be different from what it takes to be a strategic, critical thinker.

Reason for doing away grading at AWC and NDC is given as for injecting more academic rigour. The intent was to mitigate the ill effects of competitiveness within the small groups of students. The policy recognised that students arrived with different levels of preparedness for graduate education. The rationale in that military officers are different, should not be bothered about trivialities like grades. The pool of military students is better on average than the pool of students attending civilian institutions. Military students are more motivated to work hard than their civilian peers. Perhaps the military students - highly trained in their fields - are considered so professionally valuable that they are simply “too big to fail.”⁴⁵ But there is another school of thought. Doing away with grades and passing every officer does nothing for academic rigour. There are two different curricula for professional requirement of the Armed forces and getting a Master's Degree. AWC and NDC design their curricular for both these requirements in a manner that these can be taught by anyone. Skills such as writing, many military officers hardly write beyond bullet points and critical analysis, could be taught and tested. Including academic study in professional development can also create institutional tensions, but these tensions can be creative.

Education requires time to read, time to absorb readings, time spent in follow-on discussions and time contemplating different views. Analytic writing, something students are often uncomfortable with, requires uninterrupted blocks of time.⁴⁶ It is important to remember that not every good officer will be a good academic. There is a need to shape education so that it provides the right mix for those who are not academic.

The Defence Services Staff College (DSSC) program too produces graduates thoroughly versed in staff processes and broadly acquainted with tactical doctrine. With officers representing all arms and services, all the Course contents are aimed at the median group. The training is useful, it prepares

⁴⁵Meaningful Metrics for Professional Military Education By Joan Johnson-Freese and Kevin Kelley | Joint Force Quarterly 84, January 26, 2017.

⁴⁶Steven Metz, “Strategic Horizons: U.S. Profession Military Education on the Chopping Block,” World Politics Review, April 17, 2013. Available at : <http://www.worldpoliticsreview.com/articles/12879/strategic-horizons-u-s-professional-military-education-on-the-chopping-block>

students for the known. But the task of Staff College is education that prepares students for the unknown through the development of improved critical and creative thinking.⁴⁷

Institutional Culture Matters

Officers from the same group are selected for HC and HDM Courses (HDMC). Both are equally prestigious for career enhancement. Both award degrees. But there is no comparison of academic rigour between the two courses. Officers undergoing HDMC course are put through very demanding academic curricula. However, when officers from both the groups come for attending NDC course the culture of AWC prevails. The point should be reinforced at the AWC and NDC expecting that the year spent on the course should be of hard and necessary study and not an exercise in building self-esteem. Many PME students expect these courses to be a year off to relax, network and reconnect with family after long operational assignments. At least this is what they are told so by detailers and senior officers who attended these courses themselves. It will be an interesting study to see how much spare time given to student officers for study and professional development have been utilised for the same vis a vis trying to improve golf handicap.

In this context, Maj Gen Robert Scales writes⁴⁸: “The officers are overburdened with classes, with very little time to think about what they are learning. It would be far better to re-evaluate exactly what we want from our educational system and to strip away the non-essential. If we want to create the strategic thinkers of the future, we should focus our efforts towards it. That might mean getting rid of many classes. However, that clashes with a military culture which questions blank-space on the calendar as though the officers will be somehow wasting time. Academic rigor too, is essential. We have to accept that some officers are not capable of graduating from higher-level education, and that they perhaps should not be there in the first place. We need to be more rigorous across the board when we assess the officers, for we do them and the people they will

⁴⁷Jeffrey D. McCausland and Gregg F. Martin, Transforming Strategic Leader Education for the 21st-Century Army, Parameters, Autumn 2001, pp. 17-33.

⁴⁸Maj Gen Robert Scales, Too Busy to Learn, Available at : <http://www.usni.org/magazines/proceedings/2010-02/too-busy-learn>

command in the future no favors by not holding them to account. Finally, we need to make sure we challenge them to think. And not in the knee-jerk, 'let's throw in a two-hour class on critical thinking' way, but more fundamentally. The officers need to take classes across the spectrum of disciplines, which genuinely challenge their intellect. These classes need to be assessed through writing, which also should be conducted across the curriculum. Where indoctrination is essential, it should continue. Hopefully, we can reform how we educate our officers so as to be more like Prussia, and less like the French Army in 1870 that we are increasingly in danger of becoming. We need to do this because the consequences of getting it wrong could easily be catastrophic.”

Although there is a general consensus on the range of topics that should comprise PME, there is no consensus regarding the relative weighting of those areas.

The PME institutions give lot of importance to feedback from students, or 'Student Assessment'. Students are professionals, have held major command. It is assumed they can recognise quality, rigour and relevance when presented with it. But what the students want and expect from the courses in terms of both content and degree and type of challenge—widely varies. A common, professionally developed and validated student assessment protocol is needed. Such a common assessment system and tool would also allow for comparative data across institutions.^{49,50}

Learning Organisation

Soldiers are often too busy to learn. Learning has taken a back seat in today's forces focused on operations. Army must create a new learning environment based on students rather than training institutions. John Nagl said: Learning in a large organisation, is a process in which subordinates close to the point of the spear identify problems and suggest solutions – a common training of all successful businesses. The key variable in

⁴⁹Dave Maxwell, Thoughts on Professional Military Education: After 9-11, Iraq, and Afghanistan in the Era of Fiscal Austerity, Small Wars Journal, Jan 1 2012, Available online at : <http://smallwarsjournal.com/jrnl/art/thoughts-on-professional-militaryeducation-after-9-11-iraq-and-afghanistan-in-the-era-of-f>

⁵⁰Ah, memories of the Air War College, By June 24, 2011, <http://foreignpolicy.com/2011/06/24/ah-memories-of-the-air-war-college/>

determining whether organisations adapt or die is not at the lower levels but at the top: key leaders have to determine that real change is required. The following six questions can determine if one is part of a learning institution.⁵¹

- Does your organisation promote suggestions from the lowest echelons?
- Are subordinates encouraged to question superiors and policies?
- Does the organisation regularly question its basic assumptions?
- Are high-ranking leaders routinely in close contact with those at lower levels and open to their suggestions?
- Do assessments take place at every echelon and are lessons learned from assessments implemented into the organisation?
- Does your organisation have a just culture?

A 2010 blog post by Admiral James Stavridis, Commander, US European Command and Supreme Allied Commander Europe, succinctly stated: “The enormous irony of the military profession is that we are huge risk takers in what we do operationally — flying airplanes on and off a carrier, driving a ship through a sea state five typhoon, walking point with your platoon in southern Afghanistan — but publishing an article, posting a blog, or speaking to the media can scare us badly. We are happy to take personal risk or operational risk, but too many of us won't take career risk.”^{52,53}

The Indian Scenario

The Indian Army has a variety of training establishments. These may be categorised as Category 'A' and Category 'B' Establishments. In many cases, to optimise the output, these Establishments have overlapping curricula. Prominent among the Category 'A' establishment are the following :-

⁵¹John A. Nagl, *Knife Fights: A Memoir of Modern War in Theory And Practice* (New York: The Penguin Press 2014), p 37.

⁵²Nicholas Murray, “Finally, Official Recognition That CGSC Is Broken, Bust and in the Ditch,” *Foreign Policy*, September 25, 2015, available at <http://foreignpolicy.com/2015/09/25/finally-official-recognition-that-cgsc-is-broken-bust-and-in-the-ditch/>

⁵³Joan Johnson-Freese, “The Reform of Military Education: Twenty-Five Years Later,” *Orbis* 56, no. 1 (Winter 2012), 135–153; and John T. Kuehn, “The Goldwater-Nichols Fix: Joint Education Is the Key to True 'Jointness,’” *Armed Forces Journal* (April 2010).

- **Pre-Commission Training.** Besides the National Defence Academy (NDA) which is a joint service training establishment, there are the Indian Military Academy (IMA), Officer Training Academies (OTA) at Chennai and Gaya, and the three Cadets' Training Wings (CTW) of the Engineers, Signals and Electronics and Mechanical Engineers (EME).
- **Army Training.** These are, the training schools, colleges and establishments of Infantry, Mechanised Forces, Artillery, Engineers, Signals, Army Air Defence, Army Aviation, the Counter Insurgency and Jungle Warfare School, High Altitude Warfare School, the Special Forces Training School etc.
- **All Arms Training.** The Army War College, Military Intelligence School, Army Education Corps Training Centre and College, Army Institute of Physical Training, the Junior Leaders' Academy, Institute of Military Law and Institute of National Integration etc.
- **Arms and Services Specific Training.** Army Medical College & Centre (Armed Forces Medical College is a Joint Services Organisation), Army Service Corps College, College of Material Management, Corps of Military Police School, Remount and Veterinary College, etc.
- **Technical Training.** College of Military Engineering (CME), Military College of Telecommunication Engineers (MCTE), Military College of Electrical and Mechanical Engineers (MCEME) etc.

Joint Training is imparted at different training establishments at three distinct levels at the National Defence Academy (NDA), College of Defence Management (CDM) and the NDC.

Pre-Commission Training

The Military and Sainik Schools were created with the main aim of feeding the NDA. However, the numbers of students entering NDA from these schools are alarmingly low vis-à-vis the cost of such huge infrastructure. Compared to these some private coaching institute are doing far better job with much less resources. A de-novo look should be given on the establishments of Military and Sainik Schools.

There are 19 different types of entries for commission into Indian Army. It is extremely difficult to get everybody at the same level after going through different training establishments and time periods. Academically, NDA cadets obtain BA or B.Sc. degrees; the Indian Navy has opted to educate its cadets in engineering degree during basic training at NDA. From NDA about 400 Cadets get enrolled at IMA after three years. From IMA, the two OTAs and CTWs all combined approximately 1800-2000 officers get commissioned each year.

The Technical Entry Scheme (TES) Entry is an unique entry for induction of officers into the Army. The Gentleman Cadets (GC) undergo one year of basic military training in OTA Gaya followed by three years of technical and military training at one of the three CTWs at CME Pune, MCTE Mhow or MCEME, Secunderabad. The GC then returns to OTA Gaya for his passing out parade and goes back for one year to his parent school of instruction for one year post-commission education in order to complete four years of Engineering Degree. He is not eligible for any antedate seniority. The TES entry officers have proved to be a very successful as they are among the brightest children to have completed school and are exposed to prolonged period of strenuous training and technical education. Each CTW has 30 odd cadets; thus a batch has approximately ninety cadets passing out every six months from the three CTWs. Out of this, nearly sixty percent go to technical arms and services and the balance 40 percent go to other arms and services. TES officers have accomplished themselves in all fields irrespective of the arm and service they are commissioned. Many have been awarded gallantry awards and while many are topping the Young Officer's and other courses as a matter of routine. A number of them have qualified on competitive courses like the Staff College and Technical Staff Officers Courses and proved themselves to be accomplished regimental and staff officers.

The CTWs of the three technical institutes are being run on ad hoc basis. Number of trainers and the training infrastructure of establishments like the OTA Gaya are not even comparable to those of CTWs keeping in view the number of cadets they train. Having three separate CTWs is amounting to frittering away of resources. It is suggested that one establishment be earmarked, be it OTA Gaya or one of the CTWs can be enlarged to accommodate all TES cadets so that the CTW has an identity of its own. The other two CTWs should then be closed down and centralised training

conducted for all TES cadets. It would optimise resources versus training and improve interaction and cohesion among cadets.

Professional Training at Junior Officer Level

After commissioning, officers are trained by their respective arms and services in their training establishments. Starting from Young Officers Course, courses on Physical Training, Commando, Weapon Training, Field Engineering, Mountain Warfare, Information Technology etc. are conducted here for officers of all arms and services. Regular officers of Engineers, Signals and EME undergo a programme of B.Tech at the respective Category 'A' Establishments. This is done within first five to six years of service. After about seven to nine years of service depending upon the arms/services the officers belong to, they attend the Junior Command (JC) Course at the AWC Mhow, followed by parent arm-specific junior commanders courses at their respective arms and services Category 'A' establishments.

Hereafter, officers go through a competitive examination for the Defence Services Staff College (DSSC) Course or the Technical Staff Officers Course (TSOC). In addition, Artillery has entrance examination for Long Gunnery Staff Course (LGSC) while the Engineers, Signals and EME have examinations for selection to M.Tech or equivalent courses. Officers who pass such examinations and make it to the merit lists, undergo these courses. Besides, there are provisions for Study Leave, Resettlement Courses, Foreign Language Course and others.

Middle Level PME

After 14 to 16 years of service, selected officers at the rank of Lt Col are sent to attend the Senior Command (SC) Courses at the AWC, followed by the corresponding arm-specific courses at respective arms and services training establishments. After command of a unit at around 20-22 years of service, officers are selected for the Higher Command (HC) Course at the AWC and the HDMC at the College of Defence Management (CDM). CDM is a joint service training organisation where officers of all the three services of around the same professional and age profile are trained.

Higher Level PME

After command of a brigade or equivalent formation, officers of the rank of

Brigadier and equivalent are selected for a course of 11 months at the NDC at around 30 years of service. Ten officers of Army are also sent to attend the 10 months Advanced Professional Program for Public Administration (APPA) Course at the Indian Institute of Public Administration.

The National Defence College

The NDC, New Delhi, conducts a 11 month course for around 100 officers of the rank of Brigadiers or equivalent. 40, 12 and 6 officers from Indian Army, Air Force and Navy are nominated for the course after a very strict selection procedure undertaken by each of the respective services. In addition, around 25 officers from foreign countries all over world also participate in this prestigious course. Balance 17 participants are nominated from Indian Administrative Service (IAS), Indian Police Service (IPS), Indian Revenue Service (IRS), other Central Services (CS), the Defence Research and Development Organisation (DRDO), and the Ordnance Factory Board (OFB). Instructors come from the three services as also from the IAS and Indian Foreign Service (IFS) cadres. Unlike students, there is no specified selection criterion for instructors.

There are total of six studies in the course curriculum. These are Socio Political Study of India, Economy and Science and Technology, International Security Environment, Study of Global Issues, India's Strategic Neighborhood and Strategies and Structures for National Security. In each study, Integrated Analysis Groups are formed to critically analyse the issues relevant to the particular study. The study is conducted in the form of group discussion, presentation and written assignments. A similar institute, the British Royal College of Defence Studies (RCDS), runs a similar course divided into the following parts :-

- Term 1: Current and Future Strategic Context;
- Term 2: Conflict and Strategy in the Modern World;
- Term 3: Contemporary International Issues.

The NDC should be educating the future strategic leaders in terms of strategy making, strategic leadership and civil-military relations. The emphasis has to be on national military and defence strategies. The strategy and leadership issues should have a common thread running through all the six studies as it is being done at the RCDS. Presently, the most important study of the course, 'Strategies and Structures for National Security' is

undertaken at the fag end of the course. It thus has its disadvantages in terms of diminishing interest due to posting orders, thesis submission and viva voce, other end of term activities and socialisation. An independent body of experts outside the preview of NDC should evaluate the curriculum and the method of instruction, compare with such institutions of the world and suggest measures for further improvement.⁵⁴

Indian National Defence University (INDU)

The idea of INDU was first conceived in by the Chiefs of Staff Committee in 1967. After the 1999 Kargil War this idea was taken seriously when in 2002 the Government created a Committee on the National Defence University (CONDU) headed by the late K. Subrahmanyam. It was to be established in seven years time (by 2008).^{55,56}

In 2010 the Cabinet gave an 'in principle' approval for setting up the Defence University. Subsequently, a public sector undertaking, the Educational Consultants India Limited (EdCIL-India) Limited was tasked with preparing a Detailed Project Report (DPR), a blueprint explaining the campus construction of the University, its acts and statutes, plans for faculty development and the overall intellectual approach. In 2013, the then Prime Minister, Manmohan Singh had laid the foundation for the nation's first defence university at Binola in Gurgaon. The fact remains that even after so many years the basic bill for establishment of the University has not been put up in the parliament to pass. There is no informed discussion in open domain about NDU. The CONDU Report and the report of EdCIL (India) Limited remain classified. The excuse of 'security concerns' remains the biggest bugbear of Indian military education system.^{57,58}

⁵⁴Prakash Menon (2015): Military Education in India: Missing the Forest for the Trees, Journal of Defence Studies, Vol. 9, No. 4 October-December 2015, pp. 49-69.

⁵⁵Anit Mukherjee, Devesh Kapur, A fleeting Opportunity, The Hindu, 10 August 2016 available at : <http://www.thehindu.com/opinion/op-ed/Afleeting-opportunity/article14562307.ece>

⁵⁶Harsh V. Pant, The art of war, We need to think creatively about the proposed defence university, Indian Express, 19 August 2016.

⁵⁷Prakash Katoch, Defence university: Why INDU might end up as just another bureaucratic coup, 16 August 2016 available at : <http://www.firstpost.com/category/india>

⁵⁸Gautam Sen, Professional Military Education in India : The emerging Scenario, June 2013 available at : http://www.academia.edu/7933614/Professional_Military_Education_in_India_The_emerging_Scenario

Challenges that a military university faces may be considered at three levels⁵⁹ :-

- The first level involves its status as an institution of national governance and civil-military relations, including preparing national leaders to handle the challenges.
- The second challenge involves its place in the armed forces and within the Ministry of Defence, including the preparation of military leaders as part of a force-generation plan and a personnel development strategy. As national governments mature and become well established, the military instrument also gets regularised and well subordinated to the civil authority. The focus of professional military education then turns from the first to the second level.
- The third challenge involves preserving the capacity and character of the university. This extends to academic governance, faculty-management relations and external relations with the university community at-large,

There are justifiable reasons for a clamour for civilian faculties in the NDU. There are 29 Universities in India which have departments of defence studies. The research output, faculty and profile of students in these academic institutions are rather poor. Retired military officers with proper education, intellectual abilities, experience in teaching and writing on professional matters should be a good alternative to raise the level of defence studies. There has to be a judicious mixture of expertise and experience in imparting education.

Considering the inordinate delay and interference from various interest seekers, it is high time to consider establishment of an 'Army University' as it has been done in the USA in the forms of the Army University, Air University, Naval Post-Graduate School and Marine Corps University.

Recommendations

If you are planning for the year ahead... plant rice; if you are planning for ten years... plant trees; if you are planning for 100 years... educate people. - Chinese Proverb

⁵⁹U.S. Congress, House of Representatives, Committee on Armed Services, Report of the Panel on Military Education of the One Hundredth Congress, 101st Cong., 1st sess. (Washington, DC: U.S. Government Printing Office, 1989), v.

During World War I, George C. Marshall was chief of operations with the US First Army in France. He taught in Army schools from 1927 to 1936. In 1939 he became the Army's Chief of Staff. Of his elevation to that position he commented: "It became clear to me at age 58, I would have to learn new tricks that were not taught in the military manuals or on the battlefield. In this position I am a political soldier and will have to put my training in rapping out orders and making snap decisions on the back burner, and have to learn the new arts of persuasion and guile. I must become an expert in a whole new set of skills."

There should be a fundamental core curriculum programme which should be taught at each level but adjusted appropriately for the level of education and experience of the military personnel who attend the PME continuum. This core curriculum would consist of the following 'Fundamental Five'⁶⁰:

- History – Military, Civilisation and Cultural and Political History.
- Theory – Military, Political and International Relations.
- Geography.
- Operational Art.
- Strategy.

JCO/ NCO Education. For 1.3 million army there are only one Junior Leader Academy (JLA) for JCOs and NCO Academy for NCOs. There is grossly inadequate. More emphasis should be given for NCO's PME. Encouragement should be given to NCOs for completing graduate degree by Distance Education Programme. Notably, ex-servicemen (ESM) from Navy and Air Force get disproportionate number for jobs reserved for ESM compared to Army personal.

Distance Education. Out of 1800 to 2000 officers are commissioned in the Army every year, only about 300 officers are selected for DSSC course. Similarly there are only 58,92 and 11 vacancies for HC, HDM and Higher Air Command Courses respectively. There are a very large number of officers who are left out of the orbit of PME. Selection for the next ranks becomes very narrow. Officers should be given opportunity to join these courses by

⁶⁰The Ryan Review, A study of Army's education, training and doctrine needs for the future available at : <http://hdl.voced.edu.au/10707/404547>.

Distance Learning method. Duration may be double the period of residential programs. However, the infrastructure must be created for content management, facility, training aids, examination methods, instructors and other details before starting such programme. Existing infrastructure is not adequate and suitable for such a venture. The cost of shifting to a purely distance education system is the loss of the bonding and network building that takes place in a resident program. It is also more challenging to recruit and retain a world-class faculty for a purely distance education program. And while a large proportion of educational resources are now online, not having access to a library or archives can be an obstacle in distance education, albeit a declining one as more library and archive resources go online.⁶¹

Enterprise Management. Army is a huge enterprise. To manage such a big organisation officers with expertise on financial and project management, human resource development, acquisition process, works procedure, land management, information technology and cyber technologies etc. are needed. Specific training modules for respective ranks and appointments should be developed. Indian Armed Forces may like to look into the organisations like Dwight D. Eisenhower School for National Security and Resource Strategy (Eisenhower School), formerly known as the Industrial College of the Armed Forces (ICAF) which is a part of the NDU of the USA. Alternatively, CDM may be used for such courses duly augmented with faculties from reputed business schools like Indian Institutes of Management.⁶²

Education at Unit and Formation Level. Commanders focus energy on what their higher level Commanders deem to be most important. Presently, responsibility of learning has been relegated to military learning institutions. To fight future wars, responsibility for learning should be shifted to the unit commanders. Lot of training activities are undertaken at unit and formation level. The education component has to be increased in

⁶¹Another Crossroads? Professional Military Education Two Decades After the Goldwater Nichols Act and the Skelton Panel, U.S. House of Representatives Committee on Armed Services Subcommittee on Oversight & Investigations April 2010 available at :
http://www.au.af.mil/au/awc/awcgate/congress/hasc_pme_report_6may2010.pdf

⁶²https://en.wikipedia.org/wiki/Dwight_D._Eisenhower_School_for_National_Security_and_Resource_Strategy

this. The onus of education has to be taken by unit and formation commanders.

Knowledge Management. The following should be available through Intranet for officers to access :-

- Lectures, presentations given at different PME Institutions.
- Theses submitted by student officers.
- All the presentations/papers seminars organised at the behest of Army Training Command (ARTRAC) at different Category 'A' establishments.
- Course wise reading material.
- Professional Journals published by ARTRAC and Category 'A' establishments.

Only unclassified papers, which make up for more than 95 percent of the above list should be put in Intranet. There are problems of accessibility of Army Intranet at homes, downloading in a media and other security issues which need to be resolved.

Institutional Support. A knowledge portal, 'Indian Strategic Knowledge Online', available at: <http://indianstrategicknowledgeonline.com/>, and a blogsite on 'Indian Strategic Studies' available at: <http://strategicstudyindia.blogspot.in/> which are being accessed by scholars all over the world, are being maintained on daily basis by the author single handedly. This is an example of what can be done. This type of initiative undertaken by institutions with due institutional support can yield much better results. The PME establishment must remain connected with the alumni for their professional development. As Senior Directing Staff (Army) at the NDC, New Delhi, the author initiated a process of sending to all its alumni by e-mail, monthly newsletters containing scholarly papers and articles (links to these papers) on matters of strategic interest. The concerned staff was also trained. After about six months of sending monthly newsletters, this initiative died its natural death due to lack of institutional support. To be sure, building a knowledge network is complex and takes much time, effort, and intellectual energy; but when completed that would turn to be one of the most powerful integrative tools for practitioners of military art.

Army University. Even after so much time having elapsed after the Prime Minister had laid the foundation stone of the INDU, the basic action of passing the bill in the Parliament has not yet been completed. Within the ARTRAC, Army's colleges, institutes, schools and training centers provide high quality education and training to soldiers from across the world. This system however is not optimal to develop the critical and creative thinkers who the Army requires in the future. To cater for its educational needs and due accreditation, Army must initiate the process of creating an Army University. Since most of the infrastructure is already available, this would be easy and cost-effective. The organisation of US Army University is given at Appendix 'B'⁶³.

Academic Research and Scholarly Publications. The research activities in Army educational institutes are poor. Every Category 'A' establishment has a Faculty of Studies. These faculties must be made accountable. To man these, qualified personnel may be employed permanently or on a contract basis. Army must create a publishing house for publication of the research papers and journals. This should conform to the established standards of professional journals.⁶⁴

Permanent Civilian Faculty. Category 'A' establishment may think of employing appropriate subject matter experts in the form of permanent civilian faculty. Employing experts on deputation or getting retired defence service officers with expert knowledge and experience may be explored.

Study of Military History, Social Sciences, Ethics, Geography etc. Very little emphasis is given to learn Military History, Social Science, Ethics, Values, Geography etc. These should be given due importance.

Language. Rather than giving importance to learning language like French, Spanish, German etc. due impetus must be given to learning language like Chinese, Pashtu, Balti and others, as used in Jammu & Kashmir, or the languages used in insurgency areas of North East. The human resource management issues of learning, posting, career interests should be taken care of.

⁶³ Strategic Business Plan for the Army University available at : [http://army.army.mil/sites/default/files/documents/20150331_SIGNED_FINAL_Strategic_Business_Plan_for_the_%20Army_University\(Unrestricted\).pdf](http://army.army.mil/sites/default/files/documents/20150331_SIGNED_FINAL_Strategic_Business_Plan_for_the_%20Army_University(Unrestricted).pdf)

⁶⁴ Johnson-Freese and Kelley, Meaningful Metrics for Professional Military Education JFQ 84, 1st Quarter 2017.

Selection of Institutional Heads. Commandants of prestigious institutes like NDC, DSSC, CDM, AWC should be chosen deliberately. Being a three star general does not necessarily make one a good Commandant of learning institutions.

Jointmanship. Through this aspect is beginning to be given importance, much more is required to be done in today's era of Multi Domain Battle.⁶⁵

Competencies of Officers. There is no identified set of competences for officers. Army must lay down what competencies it expects of its officers during various stages of their careers. The PME institutes need to assess proper course lengths for the competencies taught in these institutes. US Navy and US Marine Corps have identified the competencies expected out of officers. These are given at Appendix 'C'

Lessons Learned. The character of warfare is changing. In the asymmetric nature of the current conflicts, where the way to fight is on the battlefield of the mind and intellect, in which the target is the 'will' and perception of the people. Lessons Learned is an important aspect of capturing knowledge and experience gained during the conflicts and the CI/CT operations. There is a need to quickly translate the 'lessons learned' from the battlefield to the classroom. Modern technology provides the means to ensure that such lessons are better disseminated. The 'Lessons Learned Cell' at the ARTRAC can attend to this task. In CI/CT environment it is important to quickly send back the lessons learned in each particular operation within a time frame of say 72 hours, to all in the operational areas so that valuable lessons are taken cognisance of. This process should be institutionalised.⁶⁶

Models of the School of Advanced Military Studies and Advanced Strategic Art Program. Like the US Army War College, a small section from each DSSC Course may be selected to put them through a ten month

⁶⁵Sydney J. Freedberg JR, Army's Multi-Domain Battle Gains Traction Across Services: The Face Of Future War, March 13, 2017 available at : <http://breakingdefense.com/2017/03/armys-multi-domain-battle-gains-traction-across-services/>

⁶⁶Moore, S., USMC Approach To Professional Military Education, Briefing for Director General Training, 11 March 2016.

graduate degree level education program on how to appreciate military art.⁶⁷

Entrance Test. For entry into DSSC there is a competitive examination. Officers are nominated for all other courses except M. Tech and LGSC courses. Study may be done whether there is a requirement of examination for HC, HDMC and NDC courses.

Cost. No cost-benefit evaluation of training is carried out. Return from the investment must be known.

Train the Trainer. There should be formalised 'train the trainer' program before an instructor starts talking classes. Trainers could be sent to professional organisations to enhance their knowledge and skill for imparting better instruction.

Encouraging Study. Field Marshal Slim said "There is no-one who cannot vastly improve their leadership through study." Leaders must possess a profound personal commitment to their own journey of developing professional mastery. They must read constantly to keep themselves abreast of their profession, but also in other related areas that might broaden their thinking. Those who lead and seek to lead must also build and maintain a professional library. This provides a ready set of references, and is a visible sign of commitment to the profession.

Conclusion

"Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur." - Giulio Douhet

Training and education are not mutually exclusive. Education complements training and experience, thus enabling officers to apply appropriate judgment to situations in a complex strategic environment. The general model for developing military leaders consists of a combination of PME, training and experience along with mentoring and self-development. PME should be stimulating, interesting and thought provoking. Army must try to be a learning organisation. Competing demands make it difficult to accommodate the need for the requisite PME, training and experience which have to be overcome. Senior officers of today must acquire a

⁶⁷Brigadier General Huba Wass de Czege, U.S. Army, Retired, The Need for Advanced Military Study, Military Review, July-August 2009

sophisticated understanding of the integration of all elements of national power (military, diplomatic, economic and informational) in the pursuit of the national objective in a particular situation. A habit of reading, writing and speaking must be inculcated in the officers' education programme.

PME is a well established system in our Armed Forces. The Army's current approach to educational training has many strengths. It delivers excellent training to its people, has good quality instruction. The infrastructure in support of training is excellent. However, the global security environmental, situation in strategic neighborhood and internal security situations are experiencing rapid changes. There are large number of new technologies available today for educational purpose. There is a need to review the entire PME system for harnessing its holistic effectiveness.

* * *

Appendix 'A'

Examples of Distance Education

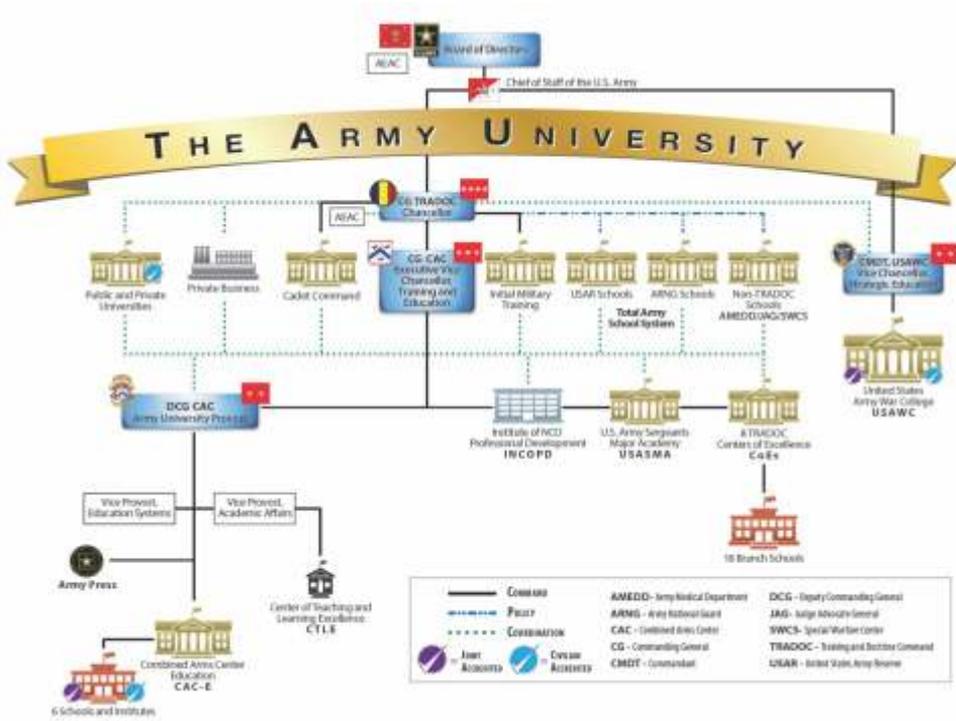
The Naval War College offers four professional military education (PME) courses delivered via the Navy Knowledge Online Portal for officers, enlisted and Department of Navy civilians. These courses are designed to provide learners with a regular worldwide PME experience at milestones in their careers. Dynamic and engaging, these courses are designed to increase professional knowledge, hone understanding of the art of naval science and joint operations, and enable the service member to effectively engage in the joint environment.

[To find NWC's Online PME courses within Navy eLearning, simply:

- Click on the "Course Catalog" tab near the top-left side of your Navy eLearning homepage.
- Select the "U.S. Naval War College/Senior Enlisted Academy Professional Military Education" link.
- Select the "Naval War College" link. Remember that a link for requesting a course completion certificate also resides on this page.
- Select the "Professional Military Education" link.
- Select the course you desire and proceed with enrollment.]



The Structure of US Army University



Appendix 'C'

Competencies of Military Officers

Summary of the desired qualities of the 21st Century Warrior has been given out by Naval Postgraduate School as follows :-⁶⁸

- Highly competent soldier, sailor, airman, or Marine;
- Understands the role of the military in a democratic society;
- Possesses high quality of character: moral and ethical strength, devotion to duty and honor, honesty, dedication, and loyalty;
- Possesses well-developed leadership and analytical skills;
- Capable of integrating and synthesising broad concepts;
- Capable of quickly adapting to and coping with novel situations; surmounts uncertainty, ambiguity, and indeterminacy;
- Possesses technological sophistication. Computer literate, familiar with space operations, versed in systems engineering, capable of comprehending the application of existing and emerging technology to warfare, familiar with information processing structures and quantitative assessment techniques and methodology, knows the limitations of technology;
- Works comfortably with and knows other service cultures
- ;➤ Knows the impact of national culture on military operations;
- Possesses a cultivated intelligence of both the science and art of war. Topical areas fall on a continuum of influences which include the future national security environment, the status of civil-military relations, the concept of "jointness," the political and historical considerations of war, strategy, operations, and tactics employed, the range of military operations, organisational dynamics, defense financial management, strategic planning, change management, community and media relations, and innovation.

The US Marine Corps has enunciated that Marine officers will need a

⁶⁸Naval Postgraduate School – Office of Naval Research Conference on Professional Military Education for the 21st Century Warrior, For NPS Presentation at the Military Education Coordinating Committee (MECC).

greater variety of skills and a wider breadth of knowledge to meet the challenges they confront, both in peace and in war. Today's officers must:-⁶⁹

- Think critically, whether confronting concrete or abstract problems;
- Express themselves, both orally and in the written form, clearly and effectively in a diverse set of circumstances and before a wide range of audiences;
- Understand national security strategy and policy as well as the responsibilities of other agencies of the federal government;
- Be proficient in their military specialty, Marine Air Ground Task Force (MAGTF) operations and how they fit into joint, international, and interagency operations;
- Appreciate the roles that international organisations, non-governmental agencies, and the private sector play in military operations, especially in the emerging security environment;
- Coordinate, where needed, the employment of military capabilities with the other elements of national power;
- Understand and appreciate the value of their profession's history;
- Master counterinsurgency operations, and operations in nuclear and biological environments; and
- Understand the principles of communications and network theory, system architectures, and the effective use of information management tools that enable such mastery.

The Chairman of the Joint Chiefs of Staff (CJCS) too has published his six Desired Leader's Attributes. They are: -⁷⁰

⁶⁹General Charles E. Wilhelm, USMC (Ret), Chairman, et al, U. S. Marine Corps Officer Professional Military Education 2006 Study and Findings available at :
<http://www.marines.mil/Portals/59/Publications/U.S.%20Marine%20Corps%20Officer%20Professional%20Military%20Education%202006%20Study%20and%20Findings.pdf>

⁷⁰Desired Leader's Attributes, CJCS, 2014-2017, Charman's Joint Training Guidance, Also see The Joint Training System: A Guide For Senior Leaders, 5 May 2015 , available at :
http://www.dtic.mil/cjcs_directives/cdata/unlimit/g3501a.pdf

- The ability to understand the environment and the effect of all instruments of national power;
- The ability to anticipate and adapt to surprise and uncertainty;
- The ability to recognise change and lead transitions;
- The ability to operate on intent through trust, empowerment and understanding (Mission Command);
- The ability to make ethical decisions based on the shared values of the Profession of Arms;
- The ability to think critically and strategically in applying joint warfighting principles and concepts to joint operations.

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