

Strength in Knowledge

The Warrant Officer Journal

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The Warrant Officer Career College, Fort Novosel, Alabama 36362, produces Strength in Knowledge: The Warrant Officer Journal quarterly for the professional exchange of information related to all issues about Army Warrant Officers. The articles presented here contain the opinions and experiences of the authors and should not be construed as an approved Army position, policy, or doctrine.



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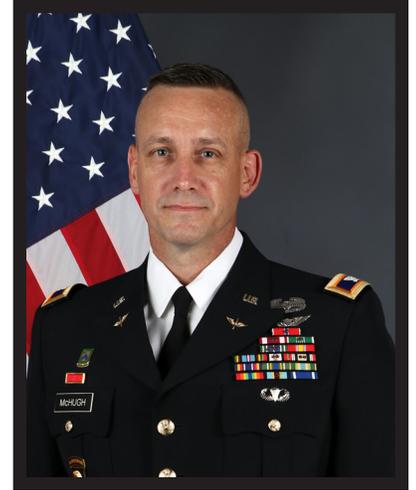
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Commandant's Corner

Colonel Kevin E. McHugh, U.S. Army

Welcome back to another year of the Warrant Officer Journal. I want to thank CW5 Leonard Momeny for establishing the foundation for this publication. Leonard created "Strength in Knowledge," serving as the lead editor of the entire four issues of volume 1 published in FY23. As CW5 Momeny moves on to bigger things in his professional life, we say good luck and thanks! As one great leader departs, another steps up to serve; I welcome CW5 (Ret) Jim Steddum, the current academic lead for our leadership and management department here at the USAWOCC. Jim has volunteered to take the literary reigns and continue the editing and production for Volume 2. Thanks to both of these phenomenal professionals.



Since our last publication, the team at the USAWOCC has been balancing the ongoing academic instruction of initial military training (WOCS) and Professional Military Education (PME) at the CW2 through CW5 levels while continuing the development of the modernized warrant officer common core education. We are closing in on the educational requirements for future CW5s selected to serve at the strategic/executive levels to benefit from the future Warrant Officer Master Course (WOMC) curriculum. Codifying these requirements will ensure we can deliver this critical education to the warrant officer cohort in FY27.

In this first issue of Strength in Knowledge, Volume 2, we again focus on the contributions of warrant officers through a different lens and unique service perspective. This issue focuses on the contributions and professional discourse from the chief warrant officer ranks within the United States Army National Guard. I have gained enormous respect for our National Guardsmen over my career, and more so while serving here at the USAWOCC. One example of this is highlighted within our existing WOCS program, specifically while visiting one of the 27 regional training institutes (RTI) that deliver proponent-based warrant officer candidate education. While there, I met a CW4 from the Mississippi National Guard assisting the 200th at Fort McClellan, Alabama. She was a WOCS academic instructor and a Training, Advising, and Counseling (TAC) Officer. I thanked her for her service and learned that she also managed a Toyota production facility full-time in her civilian capacity. Balancing civilian employment while serving in this profession while still achieving family balance is a lot, and we ask this of all our ARNG and USAR Soldiers. Thanks for all you do, and I hope you enjoy this issue highlighting your service.

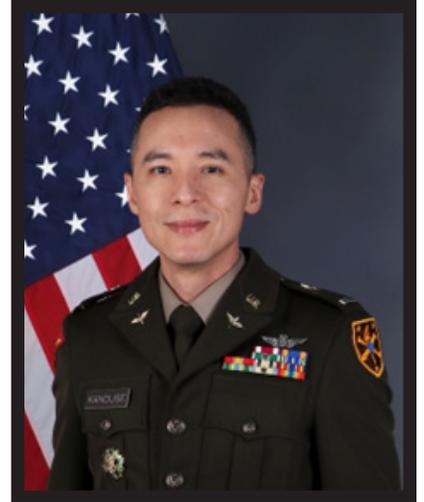
Strength in Knowledge!



Deputy Commandant's Corner

CW5 Derrick J. Knouse, U.S. Army National Guard

As we kick off another issue of the Warrant Officer Journal, I want to congratulate all the professionals who stepped up to provide perspective from the vantage point of the Army warrant officer. This issue of the journal has given significant space to warrant officers from the Army National Guard (ARNG). I am thrilled to see our ARNG senior warrants offering solutions to real world challenges faced by all three components of the Army. I challenge you to spread awareness of this publication to your fellow warrant officers. The topics you find here are not unique to the authors behind the keyboard. Contained within the following pages are potential solutions to devastating aircraft accidents, improvements to property accountability, and force structure modernization. The strength we have in our cohort resides in our collective knowledge. This is why we encourage all USAWOCC students to maintain the connections they make at the college and why we leverage your input in this publication. The value of the Army warrant officer is defined by our collective strength in knowledge.



After completing my first six months as the ARNG Deputy Commandant at USAWOCC, I am impressed at how much consideration is given to the reserve components as the team develops and modernizes warrant officer PME curriculum for the cohort. In every aspect of training development and integration, all three components of the Army are given equal input. I am proud to be a part of this team and the many initiatives being produced. One of the newer warrant officer PME initiatives directly benefits ARNG States who have State Partnership Programs (SPP). These States are receiving Operational Environment briefings prepared and delivered by USAWOCC students as part of the WOILE curriculum. These presentations offer a real-world assessment to the State's leadership regarding the variables that effect their partner's political, military, economic and social landscape. An initiative from the United States Air Force may call upon warrant officers from USAWOCC and ARNG Regional Training Institutions (RTI) to play a role in developing and mentoring newly integrated USAF warrant officers. These are just some examples of how USAWOCC leverages its multi-component structure to enhance the quality of warrant officer training and education.

As USAWOCC continues to calibrate PME for large scale combat operations, we invite senior warrant officers from all components to take a seat at the table. Whether you write an article for this journal or take an assignment here at the college, your input is valuable to the cohort. Please share this journal with your peers, subordinates, and superiors. Reach out to our editor to offer your unique insight to issues effecting the cohort and the Army. Let's get maximum use out of this vehicle designed for the benefit the Army's primary integrators, communicators, operators, leaders, and advisors!

Editor's Note

Mr. Jim Steddum, Managing Editor



Volume II of Strength in Knowledge could not have happened without the outstanding leadership of Dr. Leonard S. Momeny, who created the publication during his last full year of military service. Leonard's brilliant vision and incredibly intense commitment to the project led this publication to great success! While Leonard is on the glide path to his next chapter, I am humbled to take the reins of managing editor from a great leader, mentor, and friend.

In Volume II, we will subtly present warrant officer modernization's impressive impact on the Total Army. The passion of our talented faculty and staff enables the Army's technical integrators and operators to communicate, lead, and advise with superior insight for the future fight.

Issue 1 starts with peer-reviewed student articles from the Warrant Officer Senior Service Education Course. These articles represent what is important to senior warrant officers of the Army National Guard. As always, articles of interest from the field are highlighted.

In Issue 2, we will spotlight a more detailed analysis of the technical activities leading to integrating modernization into the future fight and sprinkle in some highlights from the end of the first full year of Warrant Officer Candidate Modernization.

By September, the Warrant Officer Intermediate Level Education Course (WOILE) should start to migrate to a completely new program of instruction, leading to what will be known as the Warrant Officer Advanced Course (WOAC). Candidate modernization includes many topics pushed down from the current WOILE. The new WOAC will go much deeper into more advanced topics relevant to operations across all domains in the large-scale fight.

Finally, we will wrap up the year with remarkable stories involving technical accomplishments from across the Army. There is much to write about. If you are reading this, I ask that you do two things. First, share the link to the journal with everyone you know. This is not a journal for warrant officers. It is a journal by warrant officers. The journal is for the Army! Second, consider writing for the journal. Share your expertise with the Army. We are all better together and building our knowledge with your contributions.

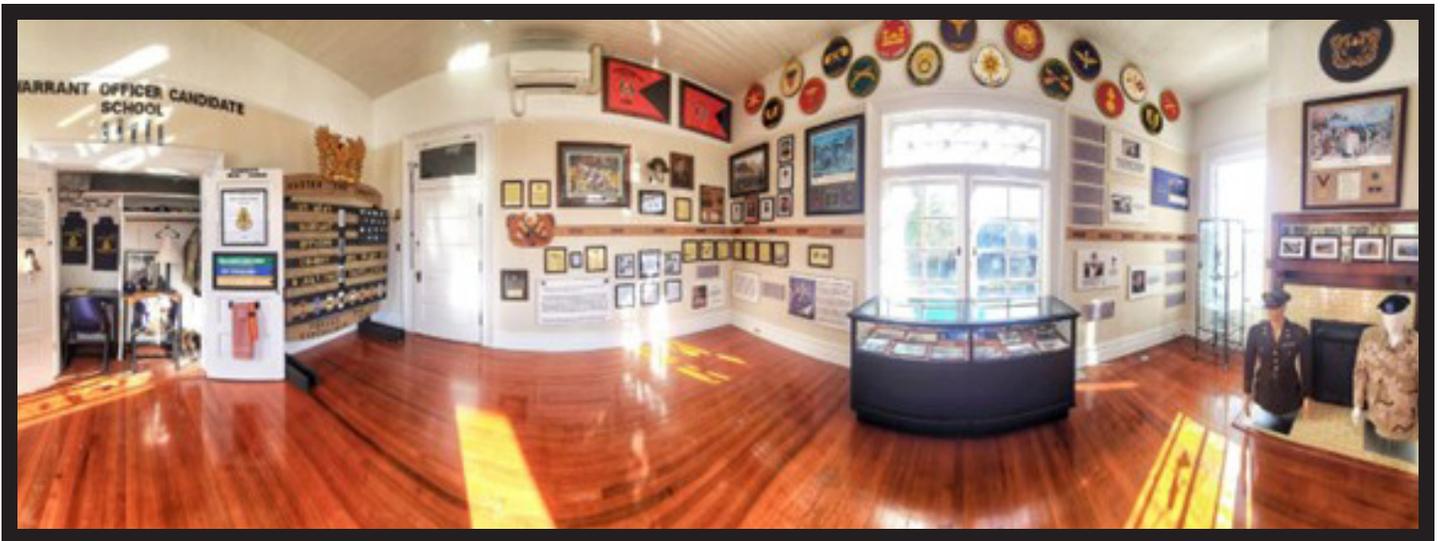
The Warrant Officer Museum

Suzu Albert, CW3, U.S. Army Warrant Officer Career College

On 23 February 2024, the United States Army Warrant Officer Museum opened its historic doors at The Holman House in Ozark, Alabama to welcome its first visitors.

Represented on the walls and in the cases are generations of Army Warrant Officer contributions across operations in all domains. Also depicted is the history of the United States Army Warrant Officer Career College (USAWOCC) itself and every Warrant's favorite shared experience: 1ST Warrant Officer Company.

Visitors have a chance to see weapons, targeting tools, uniforms and insignia, biographies of undeniable legends, historical doctrine, photographs, and nostalgic signs and shirts from Warrant Officer Candidate School classes. Critical insights of the dedication required to train Soldiers, refine Subject Matter Expertise, and advise Commanders so units are propelled to mission success fill this space.



As impactful and powerful as it is, the museum is simply a product. More profoundly, it is a tangible representation of the indomitable spirit of our Cohort and cohesion of our community.

Officers across generations, technical affiliations, and assignments came together for the Cohort. They had only two shared characteristics: all of them had the heart and hunger to support the Commander's vision, and none of them had any tangible design or interior decoration skills.



Adjutant General, Intelligence, Aviation and Field Artillery Officers took turns climbing ladders and reminding each other to wear eye protection while they melted drill bits on sheet metal walls. Current Warrants shared pizza with former Warrants and listened to stories about tactics in unimaginable combat situations. Everyone showed pins from different campaigns, donated personal effects from their service, artwork their friends created, artifacts from our branches. The Intel Warrant spent two hours mathematically calculating the optimal balance of the branch colors on the main wall. Which was two hours longer than the risk mitigation applied to consideration of the unsheathed bayonet displayed at floor level. It was true Warrant Officership in action. And it would have been impossible without support.

Civilians including the Holman House Staff and the Mayor of Ozark welcomed this beautiful representation in their community. The Warrant Officer Historical Foundation, United States Army Warrant Officer Association, and Veterans of Foreign Wars Post 6683 collaborated resources and celebrated community partnerships.

Opening night was as much an homage to our storied past as it was an expression of our Cohort's power. Visit this museum and take the chance to reflect, revere, and gain momentum as a Cohort.



Missing the “Walk” Phase in Aviation Training Leads to Accidents

CW4 Andre Lavallee

The Army Has a Responsibility to Bring DVE Training Into the 21st Century

Introduction

The Army should incorporate in-aircraft scenario-based training (“Walk” phase) for Degraded Visual environments to enhance pilot decision-making, lower the class A accident rates, and increase combat effectiveness.

Army Training utilizes the “Crawl, Walk, Run ” method, as stated in FM 7-0 (Field Manual (FM 7-0), 2021). Still, when it comes to emergency training for pilots, specifically Inadvertent entry into Instrument Meteorological Conditions (IIMC) and Degraded Visual Environments (DVE) training, they skip from Crawl straight to Run. For example, we train our pilots in the classroom, followed by the pilot going out and executing brown-out landings on the aircraft in actual dust conditions (Run phase). We put the aircraft and the entire crew in conditions that have caused hundreds of accidents over the last 15 years. The Army doesn’t have a solution for the “Walk” phase of training DVE. The hundreds of millions of dollars worth of accidents and loss of life yearly from 2005 to 2015, prove that the “Walk” phase of training, which is vitally important, is absent. There needs to be a more significant gap in our current training.

The problem

Over the last five years, the US Army has lost five aircraft to Degraded Visual Environments. These are just the latest of a series of DVE accidents that have plagued Army Aviation for decades.

- 2021 one Blackhawk helicopter from Idaho (IIMC)
- 2022, two Blackhawk helicopters from Utah NG DVE (Snow)
- 2023, one Apache helicopter AD rolled over in AK DVE (snow)
- 2023 one Blackhawk helicopter from TNNG SD on instruments (SD)

Data obtained through the Army Safety Center for Helicopter accident statistics from 2005 to 2015 demonstrates the following:

Army Accident Statistics from 2005-2015

Comparison of Dust accidents vs. IIMC accidents

	TOTAL	Dust (Landing)	Dust % of TOTAL	IIMC	IIMC % of TOTAL
Accidents	180	143	79%	37	21%
Fatalities	142	12	8%	130	92%
Equip Cost	\$938,783,088	\$468,644,699	50%	\$470,138,389	50%
Fatality Cost	\$1,363,200,000	\$115,200,000	8%	\$1,248,000,000	92%
TOTAL COST	\$2,301,983,088	\$583,844,699	28%	\$1,718,138,389	72%

* Fatality Cost Based on DA Pam 385-40 dated 24 July 2023 Table 1-1 (\$9.6M per)

Data provided by the US Army Combat Readiness Center through the Freedom of Information Act

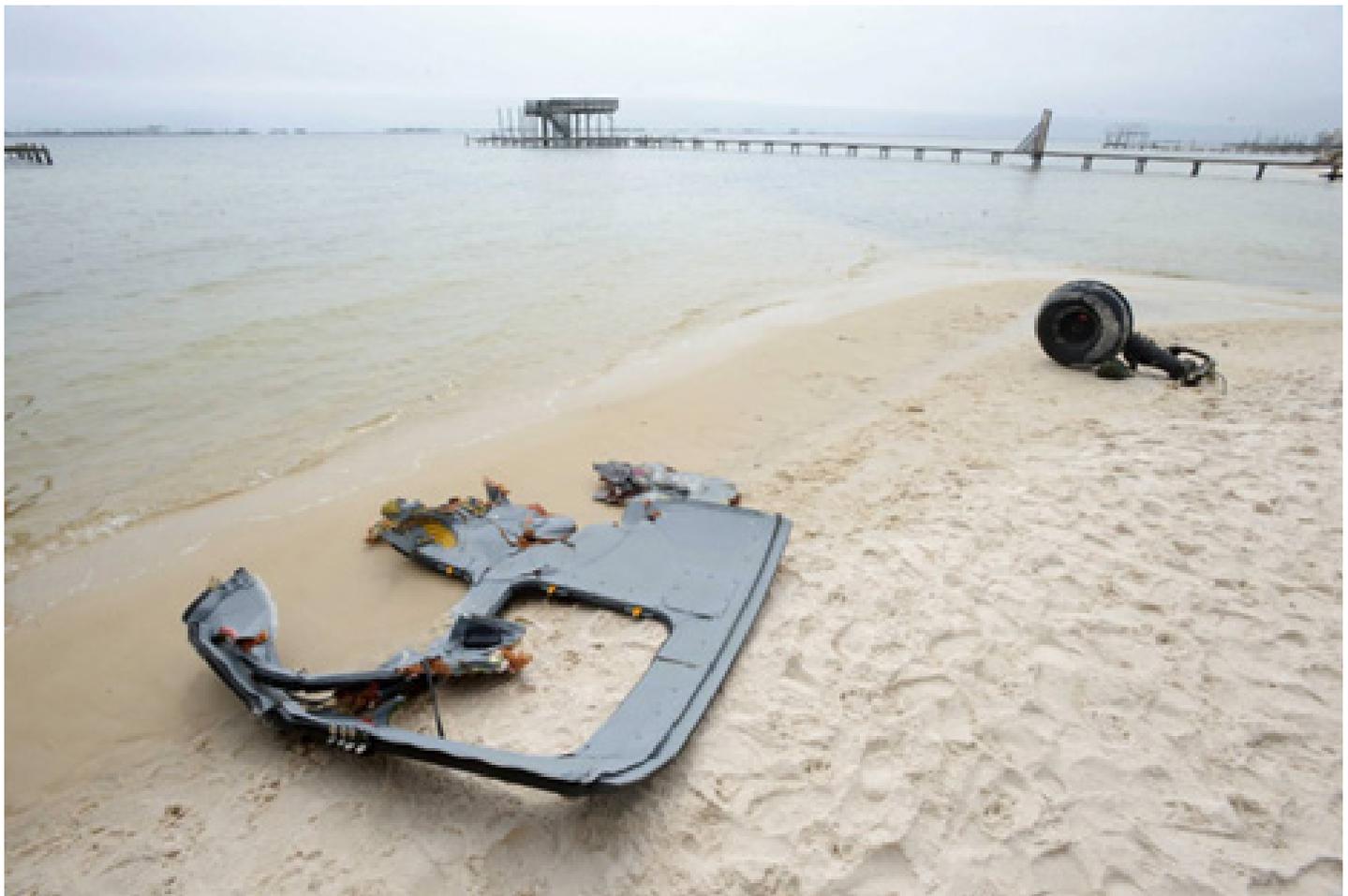


Photo Credit: CW4 Andre Lavallee

Over these ten years of combat operations, the US Army lost an average of 230 Million dollars a year to DVE accidents. A further look into the comparison between Dust landings (Brown-out) and IIMC (away from the ground) discovers an exciting finding. Although Brown-out landings account for 79% of the overall accidents, they only account for 28% of the overall cost. The IIMC accidents only account for 21% of the overall accidents but 72% of the total cost. Incidents of spatial disorientation among pilots occurring in flight, as opposed to during landing, tend to result in significantly fatal outcomes. IIMC accidents, although only 21% of the total accidents account for 92% of the fatalities.

To solve the IIMC problem of DVE accidents, the underlying causes that contribute to IIMC accidents need to be examined. Most pilots and aviation experts agree that Spatial Disorientation (SD) caused by Degraded Visual Environments is the leading cause of IIMC accidents. Spatial disorientation occurs when one or more sensory systems, visual, proprioceptive, or vestibular, send conflicting information to the brain. Each pilot handles This conflict differently based on experience, education, and training. The pilot will either overcome the disagreement with the visual system by looking at the instruments (those who live) or make improper, instinctual inputs on the controls based on the vestibular and proprioceptive information (those who crash).

Unfortunately, current helicopter training for IIMC in DVE conditions can't take the Vestibular or the Proprioceptive system into account during training. Without conflicting information from these sensory systems, recovery from the visual system is relatively easy.

Army pilots are trained to react to the IIMC portion of Degraded Visual Environments (DVE) in the simulator because it allows the Instructor to control the weather. Training in actual conditions conducive to Spatial Disorientation (less than 1000ft ceilings and 3 miles visibility) is not promoted because the risk of losing control of the aircraft far outweighs the training value. Unfortunately for pilots, the simulator, even a full motion simulator, cannot produce the sustained acceleration and G-forces necessary to excite the vestibular system. No conflicting information is sent to the brain; consequently, recovery is apparent. Training without vestibular and proprioceptive sensory information produces overconfident pilots who feel like IIMC is no big deal and SD won't happen to them . These pilots are prone to make poor decisions when flying in Degraded Visual Environments and put themselves at risk of developing SD during flight, contributing to a heightened probability of continued Class A accidents.

Granted, every individual is different, but our inner-ear physiology (vestibular system) is the same. How the brain receives signals from the vestibular system and how it prioritizes the information is what changes from person to person. Consider people playing Dizzy Bat (Vestibular system). Some people can't even stand up after spinning around the bat ten times; others can stand, but when they try to run, they fall into the dugout, and others can run to first base. Each individual's vestibular system and how it interacts with the brain is different. Aeromedical studies done by NASA and the FAA say the vestibular system takes 8 to 10 seconds of sustained acceleration to start sending signals to the brain, but once the brain receives the signals it has an overwhelming effect on motor skills and coordination, things that

are very important in piloting an aircraft, especially a helicopter . Training in a simulator is like going around the bat once or twice and then running to first base; you need a proper understanding of how incapacitating the full vestibular signals can be. If each pilot were to undergo the firsthand experience of vestibular signals during flight, pilots would make better decisions when facing conditions like flight into DVE conditions, thus decreasing the likelihood of a Class A accident.

Simulators have additional limitations, including the inability to replicate the workload saturation, fear, and anxiety encountered in actual aircraft training. Pilots are seldom required to perform the tasks needed if they go IIMC in an aircraft, i.e., Comms with ATC, radio tuning, navigation tuning, flight computer inputs, and referencing chart data. Pilots often feel that what happens in the simulator wouldn't happen to them in the aircraft. It is safe to say that very few, if any, pilots experience fear or anxiety of death when they fly in a simulator. The relationships between workload, blood pressure, fear, and anxiety are inversely proportional to decision-making. The higher these factors get, the lower your ability to make good decisions.

Cost of the problem

Losing just one UH-60M helicopter can cost over 160 million dollars. Over ten years, these accidents can total over \$2.3 billion. It is essential to highlight that spatial disorientation accidents have decreased significantly since the peak of the Middle East Campaigns. However, this decline may be attributed more to the reduction of flights/drawdown and most flights in those theaters being hardstand to hardstand rather than improvements in training. With Army Aviation's mid-level experience exiting the force, another major campaign that includes Degraded Visual Environments without providing a "Walk" to our DVE training model will see numbers very close, if not higher, than experienced between 2005 and 2015. Theoretically, if the Army can avoid just one aircraft accident, it could pay for a simple off-the-shelf industry training solution for 10-20 years (Defense News, 2022).

1 UH-60M Blackhawk helicopter - \$18,000,000.00 (FMS Web)

4 crew members @ \$9,600,000 - \$38,000,000.00

11 Pax @ \$9,600,000 - \$105,600,000.00

Total for a full aircraft - \$161,600,000

In addition to the monetary loss of the specific accidents, there are secondary and tertiary costs to these accidents. One significant cost is morale. After a unit experiences a fatal accident such as those caused by SD, there is a substantial erosion of unit cohesion. A decline in morale leads to another cost, combat power or combat effectiveness. The commander loses an aircraft and the crew's experience, which can take years to get back, especially in the National Guard. Helicopter accidents are frequently highlighted in national news, potentially affecting recruiting and raising concerns from senators and congressmen. These concerns can lead to congressional inquiries. These inquiries consume commanders' time at multiple echelons and have long-drawn-out monetary effects.

Possible Solution

Proprioceptive and vestibular inputs must be included during DVE training to provide pilots with the most realistic and practical training. The most logical and cost-effective way to do this is to train in the actual aircraft after initial training in the simulator. This solution takes what is best about aircraft training (vestibular and proprioceptive inputs) and marries it with what is best about the simulator (controlling visual input). Available liquid crystal technology can allow the pilot to be trained to operate the aircraft in simulated DVE conditions while the rest of the crew is in an unobstructed visual environment. The liquid crystal can go from transparent to opaque or be controlled to allow the pilot to see any distance in between.

By continuing the training in the aircraft, where the G-forces and necessary acceleration are present, pilots will be in an environment conducive to spatial disorientation, receiving all the vestibular and proprioceptive sensory information lacking in the current simulator training. According to the US Patent and Trademark Office, using a liquid crystal to simulate adverse weather for pilots while flying aircraft was first introduced in the late 1960s and early 1970s by NASA and others. Advances in technology only recently made this concept financially and operationally feasible. This technology can simulate flying in deteriorating weather, into a cloud, smoke, or even dust or snow. It is crucial to acknowledge that if a pilot experiences SD, fear and anxiety may lead to instinctual inputs that pose a potential threat to the stability of the aircraft. Therefore, when utilizing this technology, the implementation of stringent safety features is of paramount importance. The technology would require automation, ensuring that the pilot conducts the training functions as a safety pilot, maintaining their focus outside the aircraft at all times.

This training device could be implemented without increasing unit manning or blade hours. The device would be used on existing training flights to provide more realistic scenario-based training following the “walk” phase. Based on the data on accident reductions in crew coordination after ACT training was introduced, there is a strong likelihood that this training approach could contribute to reducing DVE accidents by at least 30-40%. Even if only 20% effective, it would save the Army \$46 million annually. With the cost of outfitting the entire force (Compo 1,2,3) at approximately \$10 million, the Army would save at least \$36 Million a year, possibly more.

This device would provide commanders a tool to train dust and snow landings to proficiency at their home station before ever putting the aircraft in the actual conditions. It could allow pilots to see what flying in 1-mile visibility looks like and how to fly the plane differently. It would allow units to conduct collective DVE training, AMC DVE training, multi-ship DVE, and IIMC breakup training. It can develop better en-route decision-making about deteriorating weather that is not readily available today.

The training must be conducted during all flight modes, especially at night. Due to the ability of the Night Vision Goggles and Night Vision Systems (NVG/NVS) to see through light obscuration and the limited

field of view, it is considerably more likely for a pilot to experience SD under NVG/NVS conditions.

Utilizing a device like this potentially enables a pilot to experience spatial disorientation within a safe and controlled environment. Suppose they can experience SD firsthand. In that case, they will make better decisions about flying in degraded visual environments and influence the pilots around them to do the same for the rest of their careers.

Current solutions being developed

Currently, PM DVE is developing a 3-pronged approach to tackle DVE, LIDAR systems, Cueing (HUD), and Aircraft Systems Automation (Osborn, 2013) . These engineering controls are great but costly (\$1M for each aircraft) and may take a long time to implement. Additionally, these solutions do not address the gap in training, specifically the “Walk” phase of training. These solutions are aimed at the Dust Landing problem, not the IIMC, which accounts for 21% of accidents that produced 92% of the fatalities. Even if these solutions are 100% effective and there would never be another Brown-out accident, only 28% of the overall cost of the problem would be addressed.

Even the engineering solutions mentioned earlier need realistic, practical training. As long as a human in the cockpit can develop SD and make instinctual control movements, they must be trained to rely on those systems. This liquid crystal technology can be used to train these engineering controls. What good is training with advanced systems if the pilots are not in a degraded visual environment and are not forced to use the information and systems provided? Will they trust the tools supplied if they don't see their work firsthand?



Strategic implications

This is more than just an army problem. Spatial disorientation accidents have affected every service, every airframe from a Coast Guard helicopter to Air Force F-35 and every aircraft in between. This problem is more evident in the helicopter industry because helicopters are inherently unstable, especially at low speeds. The Military and FAA allow helicopters to operate legally at any altitude and visibility as low as 1/2 mile. So, as helicopter pilots encounter worsening weather, they most often slow down and descend to maintain visual cues. As they slow down, the aircraft becomes less stable. Additionally, as they descend closer to the ground, they encounter more obstacles, and their reaction time diminishes, particularly in spatial disorientation. Implementing in-aircraft scenario-based training across all branches will increase the cost savings for the entire DOD.

Future Large Scale Combat Operations (LSCO) operations, especially Peer and Near Peer conflicts, will drive commanders to make decisions they weren't willing to make in the COIN environment. Decisions about acceptable losses and acceptable risks will change dramatically. The days of "the loss of even a single aircraft are unacceptable" will give way to calculated acceptable losses of a percentage of the force. We have seen this in every LSCO in our nation's history, and future LSCO will be no different. Commanders will ask our pilots to fly in conditions they have never trained for because of unacceptable risk levels during peacetime, inevitably leading to pilots making errors in an unfamiliar, stressful environment. Commanders are responsible for providing their pilots with more realistic, scenario-based, in-aircraft training to enhance readiness for future LSCO environments. Equipping aviation with superior preparation compared to adversaries provides the combatant commander with a tactical, potentially serving as a force multiplier in future conflicts.

Conclusion

The challenging winter weather conditions in Eastern Europe, China, or North Korea could soon supplant the sand and dust of the COIN operations. In certain aspects, these unfamiliar environments could pose more significant challenges than desert brownouts. Historically, 21% of Degraded Visual Environments accidents occurring away from the ground in adverse weather conditions (IIMC) have accounted for 92% of fatalities. Suppose we don't implement a "walk" phase of in-aircraft scenario-based training using all available emerging technologies and engineering controls. In that case, we will continue to have fatal class A accidents resulting in a derogation of the force and continued loss of combat effectiveness due to spatial disorientation brought on by Degraded Visual Environments.



References

- Antunano, M. (n.d.). Spatial Disorientation. [AM-400-03/1]. Federal Aviation Administration. <https://www.faa.gov/pilots/safety/pilotsafetybrochures/media/spatiald.pdf>
- Federal Aviation Administration. (2023). ACT ARC Recommendation 23-1 Simulation Training Devices Suitable for Spatial Disorientation Training. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs200/afs280/act_arc/act_arc_reco/ACT_ARC_Rec_23-1_Simulation_Training
- Federal Aviation Administration. (2023). ACT ARC Recommendation 23-2 Part 135 Helicopter Operations Spatial Disorientation Training. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs200/afs280/act_arc/act_arc_reco/ACT_ARC_Rec_23-2_Part_135_Helicopter_Operations
- Hagerty, M. (2017, September 25). Degraded Visual Environment: What are you going to do about it? https://www.army.mil/article/191923/degraded_visual_environment_what_are_you_going_to_do_about_it
- Meiry, J. L. (1966). The Vestibular System and Human Dynamic Space Orientation. NASA. <https://ntrs.nasa.gov/api/citations/19670001428/downloads/19670001428.pdf>
- Osborn, K. (2013, April 4). Army Aviation looking to overcome 'degraded visual environment'. https://www.army.mil/article/97338/army_aviation_looking_to_overcome_degraded_visual_environment
- Parsons, T. (2022, March 22). Army Blackhawk Spotted with New Sensor That Can See What Pilots Can't. The Drive. <https://www.thedrive.com/the-war-zone/army-black-hawk-spotted-with-new-sensor-that-sees-what-pilots-cant>
- United States Army. (2018). TC 3-04.93 Aeromedical training for flight personnel. [Training Circular]. Department of the Army.
- United States Army. (2021). FM 7-0 Training. [Field Manual]. Department of the Army

Irregular Warfare: A Case for Parity in Priority

CW4 Patrick Schorn

The Biden administration's current National Security Strategy demonstrates a clear shift from the previous administration by drawing distinctions between the Russian Federation and the People's Republic of China. Whereas the previous N.S.S. equated the two nations as an interchangeable threat, the current policy notes delineation. It "will prioritize maintaining an enduring competitive edge over the P.R.C. while constraining a still profoundly dangerous Russia" (White House, 2022, p. 23). The subsequent 2022 National Defense Strategy provides the Ways with which the Department of Defense will support these policies, only mentions Irregular Warfare twice, and continues the precedence of the previous administration by releasing an updated Irregular Warfare Annex as opposed to fully integrating the elements into the base document. By separating the two documents and their intent, DoD delineates its force planning construct and the associated resourcing prioritized by the Department and its components, relegating Irregular Warfare to a secondary status. Irregular warfare remains the best alternative to the strategic overmatch doctrine by providing low-visibility operational options, reducing the risk of rapid conflict escalation, and sustaining competition with state adversaries.

While the United States military struggles to view Conventional and Irregular Warfare in parity, our peer and near-peer adversaries have recognized the utility of operations below the threshold of warfare and exploited the liberal world order with it. This can be seen with the successful use of Little Green Men in Crimea, Wagner group operations in Africa, and non-state-funded proxy militias' proliferation across the Middle East. The paradigm is further quantified by noting that the United States has been involved in five conventional conflicts and over fifty irregular or low-intensity armed actions (Elsa and Weed, 2014, pgs 88-107).). Morris notes that these non-conventional deployments were "designed to achieve objectives absent declared war, and fall in an operational space between peace and war" (Morris et al., 2019, p. 8). Additionally, a recent RAND Corporation report similarly argues that gray-zone strategies below the threshold of U.S. military response will be a significant challenge for the United States in the next 10 to 15 years (Cohen and Morgan, 2020, pgs 39.46). Army Futures Command notes that "aggressive and active competition, rather than kinetic warfare, dominates the US-China relationship with proxy wars and influence efforts competition more likely than large-scale conventional warfare" (Army Futures Command, n.d., p. 7). These elements frame a global operational environment and changing warfare characterized by strategic competition and asymmetrical requirements that Special Operational Forces are trained, manned, and equipped to operate in and provide the Joint Force capability it is unprepared to support.

The Argument for Irregular Warfare

The argument for Irregular Warfare begins with broad and ill-determined doctrinal vernacular that establishes a consistent misunderstanding of, and therefore, inappropriate preparation to nest its capability within strategic planning. Joint Doctrine Note 1-19, Competition Continuum, describes “competition” as actions taken by states and non-state actors “to protect and advance their interests” (JCS, 2019, p. v). These actions generally occur before hostilities and occur to set favorable conditions or as shaping the environment to support actions following the start of conflict. Irregular warfare is the accompanying actions that arise in conflict under the threshold of visibility that overt warfare occupies. While Joint doctrine defines Traditional Warfare as “a violent struggle for domination between nation-states or coalitions and alliances of nation-states” (JCS, 2017, p. x), it defines Irregular Warfare with a broad brush as “a violent struggle among state and non-state actors for legitimacy and influence over relevant population(s)” (JVS, 2021, p 63).

One only needs to study the Chinese “Unrestricted Warfare” principle to grasp how our peer adversary employs these principles fully. This doctrine articulates China’s inclination for and emphasis on Irregular Warfare over traditional warfare, stating, “When carrying out war with these people, there is no declaration of war, no fixed battlefield, no face-to-face fighting and killing, and in the majority of situations, there will be no gunpowder smoke, gunfire, and spilling of blood” (Laing, 1999, p. 134). While the regime continues to expand its conventional military formations, it has historically favored non-kinetic, low-visibility options that allow it to obtain its goals without overt attribution and the need for diplomatic intervention that could negatively impact world opinion and economic viability. Considering this, the United States will not be able to deter Chinese aggression with a conventional defense structure entirely and will need strategies and capabilities that address their irregular threat.

Our adversaries will continue to use their Irregular Warfare capabilities to shape the environment, counter the interests of the United States and their allies, and set favorable conditions for their conventional forces if conflict arises. These actions will occur as far below the threshold of visibility as possible to ensure plausible deniability or, more likely, misattribution that helps drive information operations. Section 1202 of the FY2018 National Defense Authorization Act: Support of Special Operations for Irregular Warfare provides USSOF with the tools to counter these activities and set favorable conditions for theater commanders. The provisional authority permits USSOF to recruit, train, equip, and pay salaries for foreign militaries, paramilitaries, and individuals to support U.S. Irregular Warfare operations (National Defense Authorization Act for Fiscal Year 2018, 2017, § 1202(a)). The statute allows USSOF to effectively counter peer adversaries By, With, and Through surrogates discreetly to achieve national goals and requirements while providing decision-makers the space to use other elements of national power to ensure influence. However, while the authority bridges a capability gap during Irregular Warfare, it does not cover times of overt warfare, and “despite the consistent use of unconventional warfare as part of larger conventional campaigns over the last 60 years, there is currently no specific authority which would allow S.O.F. to train and equip an

irregular force during a “traditional armed conflict” against another nation-state” (Rich et al., n.d., p. 540).

Additionally, as the Division becomes the maneuver element in multi-domain operations and strategic planners look to support the N.D.S. requirement for large-scale combat operations using an overmatch doctrine, it is not realistic to assume that these formations will be capable of supporting both LSCO preparations and Irregular Warfare operations in steady state. To this end, USSOF is already positioned to carry these requirements either unilaterally or through partnered operations. These elements can be effectively integrated into a theater army’s conventional military formation to compete against peer threat gray zone and asymmetrical activities. This is a critical capability USSOF must continue to remain concerned about as they are highly reliant upon conventional force as a supporting structure and mission demands placed upon the relatively small elements can, and will, quickly outpace their capacity to meet requirements. Security Force Assistance Brigades are an excellent example of comparative conventional force elements that provide critical overt overlap through train, advise, assist, enable, and accompany S.F.A. operations with allied and partner nations.

Our adversaries continue to recognize and leverage the United States’ aversion to escalation of force and are often surprised when we respond with our full military capability. This is generally due to a lack of contingency plans outside long-range strikes that provide equitable options between no response and full-scale military action. This places the adversary in a position where they can continue to conduct operations below the threshold of response indefinitely with a low degree of concern of response. This sets conditions to a point where U.S. military response can cause a larger-than-proportional escalation from an adversary unprepared for kinetic U.S. reprisals. “With U.S. conventional forces reduced in size, China—and, to a lesser extent, Russia—will narrow the qualitative gap and might calculate that the United States lacks sufficient capacity to respond effectively. China and Russia, however, likely will prefer to achieve their objectives “on the cheap.” (Morgan & Cohen, 2020). Irregular Warfare provides decision-makers options that are established, prepared, and proportional to adversarial gray zone operations. Consistently developing this infrastructure below the threshold of visibility at the very least, maintains parity with our adversaries, sets conditions well in advance to respond to the unexpected, and provides alternatives that minimize escalatory cycles. When nested within a holistic, whole-of-government plan, Irregular Warfare components provide a low-visibility or clandestine “M” to the DIME paradigm.

Special Operations Forces, particularly U.S. Army Special Forces, are a critical component of the Competition Continuum as they maintain persistent engagement globally through the Joint Combined Exchange Training, or JCET program. In 2022, this Title Ten, U.S.C. Section 2011 authority provided \$55m that supported 149 S.F. Operational Detachment – Alpha deployments to train global partners. These highly cost-effective deployments often overlap annually with the same countries and become the “partner of choice” exchanges for these militaries. As the training comes at little to no cost to the host nation, they provide the U.S. Embassy and its diplomats substantial collateral and leverage with their associated host government. The long-term benefit to the program is that junior officers attending

the training and building relationships with their USSOF partners often quickly rise through their ranks and become favorable to U.S. military partnership as they progress into positions of power. This program, along with larger scale exercises and programs such as U.S.C. Section 333 Build Partner Capacity, allows the theater CCDR to tailor his competition planning to counter peer adversary inputs. Lastly, close associations with host nation military through persistent engagement provide a current understanding of the operational environment as every member of an ODA becomes a passive sensor to atmospherics while deployed.

The Way Ahead - Recommendations

Doctrine. Fully integrate Irregular Warfare into the National Defense Strategy and nest it within the priority of large-scale combat operations. Provide USSOCOM (Joint) and USASOC (Army) distinct guidance that shifts or delineates Irregular Warfare S.O.F. priorities within their portfolios.

Organization / Training. Establish an institution that coordinates and implements derivative concepts and doctrine of the Irregular Warfare Center within the U.S. government and is nested within the National Security Council to ensure whole-of-government connectivity. Rebuild an Asymmetrical Warfare Group-like organization focused on Irregular Warfare and dedicated to operational advisory support to U.S. Army forces. Provide for experimental force design that is specifically tailored to provide support to and execute Irregular Warfare in austere or denied areas. Require the integration of Irregular Warfare into all service Professional Military Education institutions. Ensure training integrates ethics and rule of land warfare to counter negative narratives associated with Irregular Warfare secondary to its use by authoritarian regimes to secure their national interests. Realign Irregular Warfare training programs focused on the emerging peer-adversary threat capability, while reducing the counterterrorism priorities of that past two decades.

Material / Facilities. Reconstitute the Rapid Equipping Force to provide rapid fielding of current and emerging technologies to support Irregular Warfare requirements and expedite RDT&E of requisite capabilities to counter peer adversaries. Reinstigate USSOCOM plans for Regional S.O.F. Coordination Centers within each TSOC to supplement ARSOF JCET exchanges and extend competition through persistent host-nation interaction.



U.S. Army Photo by
Sergeant Jake Cox

Conclusions

Secretary Robert Gates characterized the DoD's aversion to Irregular Warfare in his 2015 memoir as the "military services' preoccupation with planning, equipping, and training for future major wars with other nation-states while assigning lesser priority to current conflicts and all other forms of conflict, such as irregular or asymmetric war" (Gates, 2015). Additionally, RAND notes that "current political and budgetary constraints will likely complicate U.S. efforts to develop and implement a fully resourced National Security Strategy for some years to come. Considering these constraints and a challenging strategic environment, Army S.O.F. may constitute an effective and cost-sensitive capability" (Robinson et al., 2018, p. av.).

Irregular Warfare remains the best alternative to the strategic overmatch doctrine in an era of continually constrained resourcing, manning shortages, and regional conflicts. It provides decision-makers and strategic planners with low-visibility operational options, allowing holistic whole-of-government elements to nest within. The doctrine reduces the risk of rapid escalation of force by bridging the gap between no response and maximum military reactions while sustaining a steady state of pressure on adversaries using asymmetrical force options. Lastly, it provides options to sustain competition with nation-states below the threshold of violence by inducing costs and incurring dilemmas with which they must react.

Cantwell notes, "In the strategic environment, a dichotomy exists between irregular and traditional warfare that is central to the understanding of the future of warfare. Irregular warfare involves drones, artificial intelligence, cyber, and special operations, and traditional warfare is appropriate to prepare for large-scale ground combat. Army Special Operations Forces provide the Army with critical capability for irregular warfare, and the roles, functions, and tasks of a theater army set the conditions for success in large-scale combat operations. The effective integration of Army Special Operations Forces with the theater army allows the Army to focus on irregular and traditional war simultaneously" (Cantwell & Magula, 2023, p. 16). Ultimately, the degradation of our competitive edge demand, manning shortages, and reduced resourcing will force the United States to employ Irregular Warfare as the norm and not the exception while preparing for and paying the cost of the possibility of traditional warfare with peer adversaries.



References

- Army Future Command. (n.d.). Future Operational Environment, p. 7.
- Cantwell, G. L., & Magula, J. M. (2023). *The Future of Land Warfare* (p. 16). US Army War College Center for Strategic Leadership. ISBN 1-58487-850-9.
- Elsea, J. K., & Weed, M. C. (2014). *Declarations of War and Authorizations for the Use of Military Force: Historical Background and Legal Implications* (CRS Report RL31133, pp. 88–107). Congressional Research Service.
- Gates, R. M. (2015). *Duty: Memoirs of a Secretary at War*. Vintage Books.
- Joint Chiefs of Staff. (2017). *Doctrine for the Armed Forces of the United States* (Joint Publication 1, p. x). Joint Chiefs of Staff.
- Joint Chiefs of Staff. (2019). *Competition Continuum* (Joint Doctrine Note 1-19, p. v). Joint Chiefs of Staff.
- Joint Chiefs of Staff. (2021). *DoD Dictionary of Military and Associated Terms* (Joint Publication 1-02, p. 63). Joint Chiefs of Staff.
- Liang, Q., & Xiangsui, W. (1999). *Unrestricted Warfare* (p. 134). PLA Literature and Arts Publishing House.
- Morris, L. J., Stebbins, D., Cohen, R. S., Bouley, D. A., Payne, P., & Greenberg, M. D. (2019). *Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression below the Threshold of Major War* (RR-2942-OSD, p. 8). RAND Corporation.
- Morgan, F. E., & Cohen, R. S. (2020). *Military Trends and the Future of Warfare: The Changing Global Environment and Its Implications for the US Air Force* (RR-2849/3-AF, pp. 39–46). RAND Corporation.
- National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91, § 1202(a), 131 Stat. 1283 (2017).
- Rich, C. B., Stebbins, D., Cohen, R. S., & Bouley, D. A. (n.d.). *By, With, And Through: Section 1202 and the Future of Unconventional Warfare*. *Journal of National Security Law & Policy*, 12, 537-540.
- Robinson, L., Helmus, T. C., Cohen, R., Nader, A., Radin, A., Magnuson, M., ... & Hastings, J. L. (2018). *Improving the Understanding of Special Operations: A Case History Analysis* (p. xv). RAND Corporation.
- White House. (2022). *National Security Strategy* (p. 23). Washington, DC.

Data Literacy and Its Importance to the Army Warrant Officer

CW5 Jennifer Wolf and CW5 Derrick Kanouse

U.S. Army Warrant Officer Career College

The year is 2030, and tensions are escalating in a region that demands the deployment of a military force to maintain stability. CW4 Sam Rodriguez, an experienced logistics officer, has been assigned to lead the logistics division of a multinational coalition force preparing for Operation Data Harmony.

Background:

Operation Data Harmony involves coordinating the efforts of multiple nations, each with its own military equipment, supply chains, and communication systems. The success of the mission hinges on the seamless integration of data from various sources to ensure efficient resource allocation, timely deployment, and effective communication among the allied forces.

Scenario:

CW4 Rodriguez finds himself facing a complex web of challenges due to the diversity of equipment, technology, and procedures among the coalition forces. The need for data literacy skills becomes apparent as he navigates the following scenarios:

Interoperability Issues:

Different nations use varied logistics management systems and databases.

Real-Time Decision-Making:

Intelligence reports and operational data are streaming in continuously.

Supply Chain Optimization:

The coalition relies on a diverse set of suppliers and transport networks. (OpenAI, 2023).

Data literacy is “the ability to read, understand, and utilize data in different ways” (Stobierski, 2021, para. 4). Data literacy “enables successful and sustainable action that is based on evidence” (Schüller, 2022, p. 478). Data drive innovation and enable strategic planning because they provide empirical evidence. Sure, intuition absolutely can be of great value. Department of the Army (DA) Doctrinal Publication (ADP) 6-22 “Army Leadership and the Profession” (2019) stated “... leaders rely on intuition, experience, knowledge, and input from subordinates, peers, and superiors” (p. 4-2); but the decisions that stem from intuition should be supported with facts. Having data to support courses of action is crucial, but that’s not all there is to data-driven decision-making.

Data literacy involves an understanding of different types of data, sources of data, valid analysis, data hygiene, and the tools and techniques for using data (Stobierski, 2021). Warrant officers are technical integrators and communicators, so data literacy is a fundamental component of our roles as advisors and leaders. Data provide a picture of reality and whether progress is being made or when there is a

problem. Data can “identify correlations and trends relevant to informing policy design” (Umbach, 2022, p. 445). Umbach goes on to say that the use of data enhances “legitimacy, transparency, and accountability” (p. 445).

The immense amount of data in our world demands the ability to decode and interpret. The skills required in today’s Army range from “data collection and production; to data analysis, interpretation and visualization; to trends analysis and predictive analytics ... “ (Umbach, 2022, p. 446). Along with the practice of those skills comes the development of strategies and courses of action. This is the meat of the idea: the warrant officer, as an integrator, communicator, operator, leader, and advisor, must fully understand and be able to articulate what the data demonstrate, then integrate those data into decisions, actions, and advice.

Beyond reading, understanding, and utilizing data is evaluating data. Are the data you collect relevant, and are you able to infer relevance? Can you discern “when data are being used in misleading or inappropriate ways” (Sabbati, 2022, p. 463)? Are you able to communicate and display the data in informative and visually appealing ways?

Standards for Data Development and Interpretation

If you’ve been in the army for more than 3 weeks, you understand there are standards for everything: height and weight, physical readiness, wear of the life-saving PT belt. There are global standards for the development, production, and dissemination of statistics (Sabbati, 2022). These standards keep users of data honest. Just as with physical readiness and training your body, you must train your mind to reliably extract and utilize data in the most effective and applicable ways.

ADP 6-22 (DA, 2019) stated that “trust is shared confidence among commanders, subordinates, and partners in that all can be relied on and all are competent in performing their assigned tasks” (p. 1-2 – 1-3). This same reference also noted Soldiers and Army civilians “demonstrate character, competence, and commitment through career-long training, education [emphasis added], and experience” (p. 1-1). Are you a warrant officer who can claim competence because you have sought education and self-development?



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Manifesting Data Literacy

Data literacy can manifest in various ways depending on the context. For example, can you accurately interpret graphs and charts? When you're in a briefing, are you able to make inferences based on the data displays presented? When I taught 5th and 6th grade math, a standard for the students was to be able to understand and apply basic statistical concepts (e.g., mean, median). The students could identify the value that answered the question, but it was challenging for them to understand why we care about those values. Those involved with Army recruiting look at vast amounts of data, including population demographics, lifestyle behaviors, and the characteristics of those who join the military or choose not to. This is just one example that I hope drives home the importance of knowing statistical measures and how they can enable decision-making.

Data enhance the ability to dominate the decision-making process and are “essential to how the Army operates and will sustain future success” (Ringold, 2023, para. 1). The question, then, is does the army have a culture of data literacy? Centers of Excellence and other training sites recently received direction for additions to primary military education at all levels: Athena, conventional-nuclear integration, SHARP, talent management, and data literacy, to name a few. Army operations generate countless amounts of data in a number of areas: personnel performance, network functionality, readiness, and cost analysis, just to name a few. The army is recognizing its daily practices must be rooted in the ability to derive, analyze, and present data in ways that are useful to commanders on the ground and staff in the headquarters.

Self-Development as an Army Professional

Nieves et al. (2023) advised Soldiers and units not to wait for senior leaders to direct training in data literacy. Instead, “each unit must take charge of its own literacy in a way that is customized to its unique mission requirements” (p. 2). This begs the question how does one get training in data literacy? There are a number of commercial products, some even at no cost. You can do an Internet search for “Data Literacy Training,” and many options will display.

The Army's Center for Data Analysis and Statistics offers a free “Data 101 Training Course,” which is an introductory course. You can get certifications in data literacy, analytics, and more through the army's credentialing assistance program. The army's sustainment command at Fort Gregg-Adams offers a 10-day course in data analysis and visualization.

The bottom line is that if you're interested in this area of self-development, enhancing your skills for both the army and when you retire, think about data literacy as a crucial skillset that you should have. As the Army undergoes the most significant organizational transformation in its history, leaders at all levels have recognized that timely analysis will give us the edge we need to enhance our ability to master the tenets of multi domain operations. This skillset is critical for operating on modern battlefields

and enhancing internal operations. Quantitative analysis supports a wide array of activities, such as force design, process/system development, acquisition, and most importantly, combat operations to enhance lethality. As the United States Army Warrant Officer Career College modernizes its professional military education, the cohort will be expected to obtain proficiency in data literacy at an appropriate level. Although it is unlikely for everyone to be taught at the level of an Operations Research Systems Analysis (ORSA), many will find basic analysis and data literacy in common-core education.

Adding data literacy to the common core knowledge base of the U.S. Army warrant officer is an opportunity for the cohort to deepen its technical expertise within each specialty. The path that led one of us (Kanouse) to serving as a data analyst certainly strayed from the normal progression of a UH-60 aviation warrant officer; however, these skills enable one to bring efficiencies to each organization one serves in. This skillset can apply to the entire cohort regardless of branch. Whether you are monitoring the progress of your flying hour program funds, solving manning deficiencies in a fiscally constrained environment, identifying a targeted population with feeder MOSs to fill critical vacancies, or determining the efficacy of your training programs, data literacy is a skill that will enhance the warrant officer's role as the Army's primary integrators, communicators, operators, leaders, and advisors.

Data Literacy in Action

Here is a brief scenario, courtesy of OpenAI (2023), of when an army Soldier would need data literacy skills.

CW2 Emma Jones, a recent graduate from the Intelligence Warrant Officer Advanced Course, is assigned to a new unit that specializes in intelligence and reconnaissance. The unit is tasked with gathering, analyzing, and interpreting vast amounts of data to support military operations. Emma, though well-versed in traditional military tactics, quickly realizes the importance of data literacy in her new role.

Scenario:

CW2 Jones is tasked with planning a reconnaissance mission in a complex urban environment. The mission requires gathering information about the enemy's movements, potential threats, and the local population. In the past, such missions relied heavily on field reports, maps, and human intelligence. However, the modern battlefield demands a more sophisticated approach.

Do you see yourself in this scenario?

We hope the short examples in this paper will help you understand how developing your ability to analyze, understand, and communicate data can mean the difference between mission success or failure. That the army believes data literacy is crucial to winning wars is enough for the authors to realize our current understanding of and training in data literacy can be broadened and strengthened.

Are you willing to invest time and energy, and maybe money, in this critical skill? Will you decide to leave analysis to the ORSAs? That is an option, but is it one you feel comfortable settling on?

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References

Department of the Army. (2019, July 31). ADP 6-22 The Army profession and ethic.

https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN18529-ADP_6-22-000-WEB-1.pdf

Nieves, O. III, Boyer, J., & Calhoun, F. (2023, August). Take ownership of your formation's data literacy.

Military Review. <https://www.armyupress.army.mil/journals/military-review/online-exclusive/2023-ole/data-literacy/>

OpenAI. (2023). ChatGPT (Dec 11 version) [Large language model].

<https://chat.openai.com/chat>

Ringold, K. (2023, October 22). NETCOM helps apply data literacy to global mission. Defense Visual

Information Distribution Service. <https://www.dvidshub.net/news/456277/netcom-helps-apply-data-literacy-global-mission#:~:text=%E2%80%99CAAs%20the%20Army%20emphasizes%20data,The%20inaugural%20class%2C%20held%20Sept.>

Sabbati, G. (2022). Statistical and data literacy, a practitioner's view for policy-making: How to provide

independent, objective and authoritative data and information for policy-making. *Statistical Journal of the IAOS*, 38, 463-469. DOI 10.3233/SJI-220942

Schüller, K. (2022). Data and AI literacy for everyone. *Statistical Journal of the IAOS*, 38,

477-490. DOI 10.3233/SJI-220941

Stobierski, T. (2021, February 23). Data literacy: An introduction for business. Harvard Business School Online. <https://online.hbs.edu/blog/post/data-literacy>

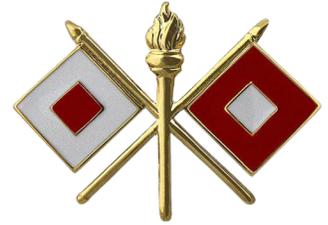
Umbach, G. (2022). Statistical and data literacy in policy-making. *Statistical Journal of the IAOS*, 38, 445-452. DOI 10.3233/SJI-220962



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Retiring the U.S. Signal Corp Flags

CW4 William D. Herweh, Iowa Army National Guard



Author's Note: *As one of the first in the U.S. Army 255Ss, I was qualified at Fort Gordon in 2012 for offensive and defensive information technology operations. The problem set and solution outlined here necessitate minimal retraining of existing forces. This approach would offer a comprehensive range of MOS options to effectively support U.S. Army Cyber Command (ARCYBER) missions, eliminating the need to recruit from other Corps to fill specific roles. This strategic shift aims to mitigate existing tensions between the two Corps, whether perceived, actual, or imagined, by establishing a uniform set of objectives and priorities.*

Restructuring the Signal Corps military occupational specialties (MOS) into a dedicated Cyber Corps can yield significant and strategic benefits for the Department of the Army, particularly in multi-domain operations, battle-space focus, and command cohesion (U.S. Department of the Army, 2021).

Convergence could facilitate a restructuring of officer career paths. "Technical Officers" might attain promotions up to Colonel (O6) based on either time in service or skill identifiers, resembling the promotion structure for medical doctors. Non-technical officers would maintain promotions using the standard Army doctrine. Under this proposed change, a highly qualified technical O6 would operate within the policies of a Major (O4) commander, like the structure in a medical clinic, and increase the Army's ability to retain well-qualified personnel. The existing O-Grade, Warrant Officer, and Enlisted career paths would stay intact, with an added option for O2, W2, and E4 personnel to assess into technical O-Grade positions as slots become available. This diversification of career paths would provide more opportunities for personnel to attain their personal goals and provide the Army with the most qualified staffing possible. The strategic alignment of mission allows the Army to centralize its leadership, expertise, and resources while reducing expenses and promoting a more streamlined and practical approach to battle-space operations. Delay is the enemy; the slow drain of knowledgeable professionals will continue until changes happen

In contemporary warfare, operations routinely span multiple domains, encompassing land, air, sea, space, and cyberspace. Incorporating cyber capabilities into the Army framework is essential to respond effectively to modern conflicts' dynamic and interconnected nature. This restructuring facilitates a more cohesive and cost-effective approach across these domains, fostering unity of effort and facilitating synergistic operations.

The U.S. Signal Corp

Developed by U.S. Army Sargeant Major Albert Meyer in the late 1850s, the WIWAG visual signaling method was officially adopted by the U.S. Army in 1860, leading to the establishment of the Army Signal Corp. With its official discontinuation in 1912, Morse code emerged as the replacement for the WIGWAG method of communication, prompting the Signal Corp to transform to align with this new requirement. As the Army phased out Morse code in the early 1990s due to the emergence of computers, cell phones, and other communication technologies, the Signal Corps again adapted to new requirements. This adaptation involved the development of an extensive list of specialties centered around information technology. While some of these new MOSs could be considered related to the Signal Corp, they collectively form part of the broader information technology profession (Keeping the Lines Open, n.d.).

The U.S. Cyber Corp

The evolution of information technology has positioned it as a pivotal asset for commanders at all echelons. Questions about defending the DoD environment against hostile forces are a serious concern. Additionally, there are questions about how we can use technology to impede the enemy's freedom of movement. In response to these challenges, the Signal Corps introduced a new defensive security Enlisted MOS and a Warrant Officer MOS for defensive or offensive operations. However, the evolution did not stop there. The Signal Corp has transitioned into the more contemporary realm of "Cyber." Establishing the Cyber Corps in 2010 represents a modern solution to safeguarding the DOD's information infrastructure. Additionally, Cyber Corps seamlessly integrates with the broader information technology profession, rendering it more relevant, inclusive, and accepted by civilian counterparts and the public.

Defensive Operations

Each MOS within the Signal Corps and Cyber Corps is critical for defensive operations. These specialties are responsible for providing information assurance through the demonstrated confidentiality, integrity, and availability of communications between the commanders and their troops, no matter how much space is between them or what systems are in use. Either Corps may also conduct interception, recording, and translation of enemy communications. Defensive operations are how the Signal and Cyber Corps protect multi-domain operations to allow for functional command and control.

Establishing a baseline core of training encompassing system functions, defensive operations, and authorized use offers a streamlined, cost-effective approach for training both Officers and Enlisted personnel. Defensive operations begin with understanding the normal functioning, management, and use of the various operating systems in the environment. Baseline security implementation through security technical implementation guides is the next step to providing essential information

assurance across information technologies. All combined with a shared understanding of the baseline environment, authorized applications, and expected system behaviors offer the building blocks to a secure environment. This streamlined approach to training provides a common core knowledge that acts as a force multiplier by creating command cohesion through expanded feeder MOSs and a flexible, comprehensive force structure.

Offensive Operations

Offensive cyber operations, destroying data or influencing the enemy by planting false information or otherwise affecting the enemy's decisions through access to the data on their information systems, are limited to specifically authorized activities controlled by the ARCYBER. While Brigades may have organic electromagnetic warfare capabilities to degrade or destroy enemy electronic systems, the potential legal and political ramifications of offensive cyber operations, accessing the data on enemy information systems, restrict these activities to specifically authorized personnel and are not usually organic to a unit in the field.

Current MOS Configuration of the Corps

The Signal Corps operates at the strategic and tactical levels. Its specialties include cyber network defenders, cyber incident responders, and the management, secure configuration, maintenance, and abnormal activity and traffic monitoring of (U.S. Army, 2023):

- The electromagnetic spectrum
- Satellite, nodal, microwave, and other long-distance communications systems
- Multichannel transmission systems
- Network devices such as switches and routers
- Firewalls and network intrusion detection systems
- Vulnerability scanners and patch management systems
- Security information and events management systems
- Servers and other data storage solutions
- Telecommunication systems
- Visual information systems
- Applications and services
- Cabling for interconnected systems
- Wireless network systems
- End-user computers and similar devices
- Radio Systems
- Authorized access to the system(s)

Other Signal Corp support operations include multimedia illustration, combat documentation/production, power station management, and vehicle maintenance.

The Cyber Corp similarly operates at the strategic and tactical levels. Its specialties include offensive cyber operations, cyber network defenders, cyber incident responders, electromagnetic warfare, and the management, secure configuration, maintenance, and abnormal activity and traffic monitoring of:

- Network devices such as switches and routers
- Firewalls and network intrusion detection systems
- Security information and events management systems

Both Cyber and Signal duplicate numerous services. Both the Signal and Cyber Corps are responsible for protecting Army intelligence and information. They serve as a critical support element for commanders, ensuring they are well-informed, can track and direct troop movements, and effectively engage the enemy. The word “Cyber” is used regardless of the subject, even if it is a Signal function. Signal personnel focus on identifying unexpected behaviors within the information system(s), whereas Cyber personnel concentrate on detecting threat actors within those system(s). They use the same tools to look for abnormal behaviors from different perspectives. Each MOS has unique specialties among its fellows while sharing a common core of training, language, and support requirements designed to protect the battle-space operations, allowing for functional command and control.

Summary

Bringing all signal and cyber specialties under one Cyber Corps establishes a unified approach to defensive operations, which is critical for safeguarding the Army’s command and control infrastructure. In an era characterized by pervasive cyber threats, the capacity to protect crucial systems and data is paramount. An inclusive, combined Cyber Corp can foster a culture of cybersecurity and resilience throughout the Army, enhancing its overall readiness. Restructuring the Signal Corps occupational specialties into the Cyber Corps would be a strategic decision to improve the Army’s ability to engage in multi-domain operations, promote cohesion among the disciplines, and focus on battle-space operations. This transformation recognizes the critical role of cyber capabilities in contemporary warfare and represents a significant step forward in the Army’s adaptation to an increasingly complex and interconnected battlefield.

References

Bass, T. (2021). The Operations Sergeant Major. *Infantry (Online)*, 110(3), 30-31.

Keeping the Lines Open: The United States Army Signal Corps. (n.d.). Army Heritage Center Foundation. <https://www.armyheritage.org/soldier-stories-information/keeping-the-lines-open-the-united-states-army-signal-corps/>

U.S. Department of the Army. (2021). Field Manual (FM 7-0). https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN35076-FM_7-0-000-WEB-1.pdf

The Army National Guard Should Receive Intelligence Equipment and Upgrades in Parity to the Active Component

CW4 Mark Learned, Minnesota Army National Guard

The 2018 National Defense Strategy states that we cannot expect success in fighting tomorrow's conflicts with yesterday's weapons or equipment. The National Guard and Reserves are no longer the strategic reserve element of the Cold War; instead, they are utilized as an operational force around the globe, supporting Iraq, Syria, and enduring missions unrelated to other foregone wars. The issue is that the fielding of intelligence equipment is not aligned with the new operational reality of using the reserve components. Active component units are prioritized with new capabilities and equipment almost exclusively while handing down outdated and degraded equipment to the other components. The Army National Guard should field the most current intelligence collection systems in proportion to the active component because the guard is expected to perform the same functions supporting worldwide validated missions.

The United States Army has a variety of intelligence collection platforms that provide time-sensitive information to the battlefield commander. One of these platforms is the Prophet, which provides near real-time ground-based tactical signals intelligence at the brigade level (Prophet, 2023). This system has many versions, but the Army National Guard (ARNG) traditionally receives the Prophet after an active component unit fields the newest version; this means that the ARNG receives outdated equipment, which also comes with deficiencies and sometimes is missing essential parts. This fielding prioritization happens across multiple intelligence disciplines. It results in a degraded unit that still needs to perform its assigned missions in competition, crisis, and preparation for conflict. These National Guard units are expected to interoperate with other Army elements already in the theater.

In 2014, the 1st Armored Brigade Combat Team, 34th Infantry Division, Minnesota ARNG, fielded the Prophet Spiral 1. This system was initially fielded in 2006 by the active component. This version is what all ARNG units had until recently. Newer versions of the Prophet, called Prophet Enhanced, moved to satellite communications as a stable platform to stay connected. Prophet Enhanced was fielded exclusively to active component units, continuing the status quo of fielding prioritization. All old Prophet Spiral 1 systems were required to be turned in as updated systems were displacing them. However, the ANRG does not have any Prophet systems in their inventory as the updated systems continue going to Active Duty units, and the replacement system, Terrestrial Layer System (TLS), is still being developed, leaving the ARNG at a distinct disadvantage in capability and interoperability with the supported maneuver units.

Army doctrine does not differentiate between an active component Brigade Combat Team (BCT) and a National Guard BCT; it details the roles, responsibilities, and organizational structure inherent to the formation. Overall, 26 of the Army's 56 total BCTs, or 44 percent, reside in the ARNG. An Army BCT or

division is expected to perform the same core functions regardless of the unit being an active component or guard. ARNG BCT and division headquarters elements currently have units mobilized worldwide to support various operations (see Appendix Figures 1 and 2 for Army National Guard division and BCT missions). The ARNG has an authorized strength of around 336,000, of which over 105,000 were mobilized worldwide in June 2020 (Key, 2020), highlighting the need for the ARNG to have current equipment. The Army's Regionally Aligned Readiness and Modernization Model (ReARMM) provides an opportunity to address fielding disparities between components.

ReARMM was announced in 2020 to "integrate and synchronize force employment and modernization across the Total Army (Regular Army, Army National Guard, Army Reserve)" (ReARMM, 2020). It touted aligning units against regional priorities and giving them predictable windows to plan, prepare, train, and modernize. Regionally aligning forces provide more clarity for units to understand their likely operating environment. The current National Defense and National Security Strategies primarily focus on China and Russia; therefore, any units aligned with those theaters should be prioritized proportionally for equipment fielding and new equipment training, including ARNG units. Suppose there are ten new BCT intelligence equipment authorizations in a given period for the Terrestrial Layer System, which displaces Prophet. Four should be fielded to ARNG BCTs aligned or tasked to support missions for parity with the active component. This will allow Army commanders to employ aligned or downtrace units based on similar capabilities instead of looking at ARNG elements as having an asterisk next to their unit as a caveat for degraded capabilities. However, this fielding priority should not apply in all situations.

The Army must remain agile in these new capabilities as it modernizes and creates new units and equipment. The Army's new Tactical Intelligence Targeting Access Node (TITAN) falls into this category. TITAN is still in development, but the first generation of the TITAN system is slated to go to the Army's two Multi-Domain Task Force units, one in Washington state, aligned to INDOPACOM, and the other in Germany, aligned to EUCOM. These TITANs will be pre-prototypes and should be operated by active component units engaged in their assigned missions. Assigning new prototype equipment to ARNG units would not be as advantageous to the Army as National Guard equipment is generally used less frequently and would not have as many lessons learned as feedback to developers on improvements to the system.

Therefore, fielding prototypes and the latest version of intelligence collection equipment should be prioritized based on the Army's stated priorities. Whether theater prioritization is used or priority units, such as the 82nd Airborne and their global response mission, or the manning priorities of the Army, like MDTFs and Security Force Assistance Brigades, priorities need to include ARNG units as we build up and prepare for large scale combat operations (LSCO). Army Regulation 770-2 (2021) details the responsibilities of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (ASA ALT) to assist the Deputy Chief of Staff (DCS), G – 3/5/7, in developing priorities and authorizations for initial issue quantities of major equipment. The same regulation also details the roles of the Chief, National Guard Bureau, which serves as the principal advisor on matters relating to the equipping of t

the Army National Guard. These are some of the stakeholders that need to be engaged to ensure that we are strategically ready to provide support in LSCO. Discussion between these entities and others will potentially lead to competing priorities, which warrant discussion between other stakeholders, like the commanding generals for many of the represented forces, to come to an equitable way forward.

National Guard units need to be interoperable, and the ARNG needs to train as a unit with its authorized equipment; otherwise, our Army will not be prepared for LSCO as the pace of battle precludes months-long training on equipment. Ethically, no group should be treated better than another. Proportional prioritization across the Army's components is ethically sound. Some stakeholders might posit that the active Army utilizes equipment more frequently, so it makes sense to prioritize them. That is likely true but not ethically sound. The significance of fielding parity, especially for signals intelligence equipment, is that the equipment is not used for domestic collection, and therefore, fielding equipment to the units regionally aligned to our strategic priorities better postures them and their downtrace units to be able to transition from competition to crisis and conflict, if needed. Placing assets and resources towards peer threats ensures that we are postured to respond to the actions of those peers.

The ARNG is activated worldwide, accomplishing various missions, and needs parity with intelligence equipment fielding. Equipment, or lack thereof, currently fielded to the ARNG puts them at a disadvantage to their active counterparts, which needs to be rectified before the gaps widen further and we are unprepared for LSCO. The argument that the ARNG is a strategic reserve force is not operationally valid, and ReARMM can shift the focus to an operational Total Army with equipment fielding parity. While some situations, like new capabilities, should be fielded and operated by the active component, it must be clear that the capabilities of the combat forces in the ARNG must not be undervalued or understated in competition or preparation for conflict. Brigadier General Edmonson, G-6, FORSCOM, stated in 2019, "If we have a compo 1 (Active Duty) solution that doesn't include compo 2 (National Guard) and compo 3 (Reserve) we are probably heading down the wrong road" (Walker, 2019). Let us head toward total Army solutions by fielding intelligence equipment to the ARNG in parity with the active component.



References

Department of Defense. (2018). National defense strategy.

Grant, G. (2019, November 12). U.S. Army Forces Command CTC/IWfF quarterly review: SIGINT best practices.

Key, K. (2020, August 11). Lt. Gen. Jon A. Jensen is new Army National Guard director. U.S. Army. https://www.army.mil/article/238031/lt_gen_jon_a_jensen_is_new_army_national_guard_director

Material Fielding. (2021). Army Regulation 770-2 (§ 2).

Prophet. United States Army Acquisition Support Center. (n.d.). <https://asc.army.mil/web/portfolio-item/news-prophet>

Regionally Aligned Readiness and Modernization Model (ReARMM). (2020, October 16). U.S. Army. <https://www.army.mil/standto/archive/2020/10/16>

Walker, A. (2019, June 3). Army fielding Unified Expeditionary Network Equipment to National Guard. U.S. Army https://www.army.mil/article/222695/army_fielding_unified_expeditionary_network_equipment_to_national_guard



National Guard and Reserve Pre-Test for Warrant Officer Basic and Advanced Course

CW4 Peter W. Sizemore, West Virginia Army National Guard

In today's Army, money matters, possibly more than almost anything. Saving money is imperative. The Army National Guard and Reserves must allow soldiers to test out of technical courses such as WOBC and WOAC for ground warrant officers due to their civilian training and professional experience, saving everyone time and money.

The Army's plan to recruit warrant officers is to find qualified personnel with around 6-8 years of service who can meet the required standards. To make this even more complex, the Army has an attrition rate of 29.7% (Marrone, 2020). This leads to fewer and fewer available personnel to pick from. To try and resolve this problem, you have a couple of options. You can either lower standards or change how the standards are implemented. If you lower standards, chances are you get less experience and less qualified expertise. If you modify the bar, you still have the same highly qualified expert performing the job, and you save the Army money and the National Guard members time away from their families and employers.

One possible way to alleviate this problem would be to allow personnel, especially National Guard and Reserves members, to take a pre-test of their technical education to see if they need to attend. Many Guard and Reserve personnel have high-level jobs in the civilian world or government sector. I have met people who are Deans of colleges, who work for three-letter government agencies, who have been undercover being radicalized as a terrorist for over a decade, and many who have high-level technical jobs. I am not saying that Army training isn't unreasonable, necessary, or beneficial. In some scenarios, the benefit personnel receive from technical schooling must be more significant than their expertise to warrant the cost.

In some branches, such as Signal, there are ways to obtain credit in lieu of Army training. Most of this can only happen if the member has received civilian education in the exact training covered in the course phase. This doesn't cover everyone and may not even cover the majority. Some of the best Information Technology (I.T.) experts are self-taught to a large degree. Some receive training to become familiar with that skill set, then turn to self-taught research and study.

The Army could pay for a soldier to travel to the schoolhouse, spend a few days taking the same exams students take that are in residence, and then travel home. They could even administer these exams online through a proctored test on Blackboard or something similar. If the student passes the exam, they receive credit for that block. Whatever exams they fail, they would need to attend in person. The student must take an exam at home to ensure they have the skill set to travel to the schoolhouse and take the test.

A Staff Sergeant (E6) with ten years in service earns approximately \$6,339.04 monthly (depending on duty location and marital status). This comes to \$211.30 per day. For \$633.90, the Army could potentially save \$9,357.64 (\$5,705.14 in pay, \$387 in flights, \$2,871 in lodging, \$394.50 in meals) for a month of training for each soldier that passes a pre-test for a month-long phase of training. According to the Final Report of the Georgia House of Representatives Study Committee on Military Affairs, Fort Gordon trains 12,500 personnel yearly (Final Report of the Georgia House of Representatives Study Committee on Military Affairs, n.d.). In 2022, there were 461,657 active-duty soldiers, 329,705 National Guard soldiers, and 176,171 reserve soldiers (Military Force Numbers by Service Branch and Reserve Component U.S. 2022, 2023). The Army consists of 52% of reserve drilling soldiers and guards with civilian jobs. Using this percentage, just at Fort Gordon alone, there are 6,500 soldiers each year; the U.S. Government has to pay to leave their civilian jobs to travel away from their families to attend training they may already have from another source. This could save a tremendous amount of money annually. If, conservatively, the average school is two months long, the annual savings could be over \$121M. It also appears that 18 locations train soldiers nationwide (George N., n.d.). The number of soldiers trained at each site varies, but using the same factors as Fort Gordon, it amounts to a potential savings of just under \$2.2B annually. Let's put that into perspective: that amount would pay for 29% of the members of the Army National Guard (Jim Greenhill, n.d.). That is not an insignificant number. Please remember that all of these calculations are based on an E6, and I have yet to consider the staff reduction that could happen at schoolhouses, which would save additional funds.

A soldier I know works for the Federal Emergency Management Agency (FEMA) in his civilian job and serves in the National Guard. He has a degree in information technology (IT), multiple certifications in IT and cyber areas, and over two decades of practical experience. He has to attend the introductory course to get qualified according to the Army to do his job if he decides to become a warrant officer. I am aware of the waivers that can be acquired for the phases of the courses, but these are very cumbersome and difficult to meet since you must meet every requirement in the phase. You must attend the entire phase if you cannot qualify for one block in a phase. If he were to be sent to Fort Gordon on TDY for three days to test on each block, he would easily be able to pass the course and save the Army 21 weeks of pay, approximately \$49k. This may not seem significant to many, but in the National Guard, a lower enlisted soldier could be placed on T32 orders for an entire year to perform a project for this savings.

As I spoke earlier, attrition rates are relatively high in the Army. Many soldiers are discharged from the National Guard, at least partially, because of the time away from their families. If we can eliminate or alleviate many of the days soldiers are not able to sleep in their beds, many soldiers would re-enlist. I contemplated it multiple times over my career. I have been away from my home for over a year for Army technical Professional Military Education (PME) since I was appointed a warrant officer. With all of this training, except for approximately ten weeks, I would have been able to pass a pre-test instead of the training, saving the government over \$100k just for me.

In Large-scale Combat operations (LSCO), this could be beneficial or even critical in how it helps commands. Not to even consider the dollars involved or saved, let's discuss the commander allowing his soldier to still attend PME while in theater. This may not be ideal or even fair to soldiers, but being able to give them a chance to complete a PME while deployed is fantastic. Soldiers may have long workdays, but they could walk away from the deployment promoted when they wouldn't have been able to initially. Many soldiers look for things to do in their downtime while deployed. Not to mention, "Idle hands are the devil's playthings" (Benjamin Franklin Quote, n.d.).

References

Benjamin Franklin Quote. (n.d.). Retrieved January 23, 2024, from <https://quotefancy.com/quote/772445/Benjamin-Franklin-Idle-hands-are-the-devil-s-playthings>Final Report of the Georgia House of Representatives Study Committee on Military Affairs. (n.d.). https://www.house.ga.gov/documents/committeedocuments/2016/militaryaffairs/hr1135_finalreport.pdf

George N. (n.d.). Army AIT 2023 | Advanced Individual Training. Army PRT. Retrieved January 23, 2024, from <https://www.armyprt.com/us-army/army-mos-list/army-ait/>

Jim Greenhill. (n.d.). Army officials outline Guard budget items. The National Guard. Retrieved January 23, 2024, from <https://www.nationalguard.mil/News/Article/575308/army-officials-outline-guard-budget-items/#:~:text=The%20Army's%20budget%20calls%20for,%24427%20million%20for%20military%20construction.>

Marrone, J. V. (2020). Predicting 36-Month Attrition in the U.S. Military: A Comparison Across Service Branches. RAND Corporation. https://www.rand.org/pubs/research_reports/RR4258.html

Military force numbers by service branch and reserve component U.S. 2022. (2023, November). Statista. <https://www.statista.com/statistics/232330/us-military-force-numbers-by-service-branch-and-reserve-component/>



Equipment Modernization and Training in the National Guard

CW4 Joel Mack, Jr., Arkansas Army National Guard

In the rapidly evolving defense landscape, staying abreast of technological advancements is paramount. A cornerstone of military effectiveness lies in the capability of its forces to harness and maintain proficiency with the newest equipment adeptly. However, equipment modernization is not a standalone endeavor; it intertwines closely with training, fielding processes, and strategic considerations. Enter the specialized roles of the G-staff within the National Guard Bureau. Each section, from G3 to G7, plays a pivotal role in this intricate dance of modernization and proficiency.

The G3, central to operations and training, stands at the forefront of this progression, ensuring that forces receive new equipment and remain proficient in its use throughout its lifecycle. Meanwhile, the G4's logistical expertise guarantees that this endeavor's material and logistical aspects run smoothly. The G5, with its focus on strategic foresight and policy direction, ensures that equipment fielding aligns with long-term strategic goals, while the G7, with its purview over information operations and, in some contexts, training, helps communicate equipment capabilities, integrates its use into broader informational strategies, and possibly aids in training aspects.

However, as our defense apparatus grapples with these modernization efforts, a conspicuous gap emerges in the post-New Equipment Training (NET) phase. Once the initial fanfare of NET concludes and the equipment is handed over, there is often a lull, a void in continuous, follow-up sustainment training that ensures long-term proficiency and readiness. This shortfall can lead to depreciated equipment efficacy, reduced operational readiness, and a potential compromise in mission success. Thus, our thesis asserts: "The National Guard Bureau G-3 must develop follow-up sustainment training as equipment modernization is occurring to assure timely and effective fielding, sustain proficiency, and maintain equipment readiness." Through the ensuing discourse, we will delve into the nuances of each G-staff's role in this process, the critical need for sustained training post-NET, and the ramifications of current gaps in this training continuum.

The foundational step in ensuring the effective use of modernized equipment lies in the immediate and proficient fielding post-acquisition. Historical evidence, as illustrated in the Defense Modernization Report of 2022, showcases that units equipped with advanced systems but needing more immediate, structured training post-fielding were 35% less effective in harnessing the full capabilities of the equipment. The G3, which is intrinsically involved in operations and training, bears the onus of facilitating this immediate training. At the same time, the G4 ensures that the logistical groundwork – is seamless, from equipment distribution to setting up training facilities.

Simultaneously, the G5's strategic oversight ensures that this fielding and training align with overarching defense objectives. At the same time, the G7 communicates the nuances of the new equipment,

ensuring all stakeholders are informed and aligned. Drawing a parallel to our central thesis, the period immediately post-NET is critical. It sets the stage for how adeptly the equipment is incorporated into daily operations. A lapse in structured training at this stage can translate into long-term inefficiencies and reduced equipment life. The collaboration of the G3, G4, G5, and G7 is indispensable to bridge this. Ensuring that the training modules are immediate, adaptive, comprehensive, and in line with strategic goals is paramount. As we transition to our next focal point, it becomes evident that the repercussions of this immediate post-NET phase have long-term implications, shaping the trajectory of equipment proficiency and readiness in subsequent stages.

Beyond the initial familiarization and operational integration, the crux of long-term equipment efficacy lies in sustained proficiency. The Equipment Proficiency Review of 2023 highlighted that defense units experiencing a hiatus in training post-NET exhibited a 28% decline in equipment operational readiness over a year. While the G3's role in orchestrating continuous training mechanisms is evident, the G4, G5, and G7 functions are amplified and essential during this sustained phase. The G4, with its logistical prowess, has the responsibility to ensure that equipment maintenance, repairs, and upgrades are timely, enhancing the longevity and functional capabilities of the tools.

Concurrently, the G5's strategic planning aids in forecasting future equipment needs, ensuring that the training modules developed are forward-thinking and adaptive to impending technological enhancements. The G7, meanwhile, continually educates and updates the defense personnel on emerging equipment functionalities, ensuring that the force remains at the cutting edge of information and operational trends. Relating this to our thesis, the post-NET period is not a static phase but a continuum that demands vigilance, adaptability, and consistent upskilling. This sustained proficiency optimizes equipment usage and safeguards defense missions from potential technological obsolescence. The synergy between the various G-staff sections ensures that this proficiency is holistic, encompassing operational, logistical, strategic, and informational dimensions. As we segue into our subsequent focus point, the narrative underscores the broader implications of sustained proficiency: the intertwining of equipment readiness with national defense strategies and fiscal implications.

The true testament of a defense force's preparedness lies in its ability to respond efficiently under real-world scenarios. A critical indicator of this readiness is the alignment of equipment proficiency with overarching defense objectives. The Defense Strategic Alignment Report of 2022 demonstrated that units that integrated equipment proficiency into their broader strategic goals were 40% more successful in mission outcomes. The G5, in its role of strategic foresight, becomes instrumental here, ensuring that equipment usage and training paradigms dovetail with national defense priorities. Meanwhile, the G3's continuously shaping training programs to reflect these strategic imperatives. The G4, ensuring optimal logistical support, is pivotal in guaranteeing that the equipment is always mission-ready. At the same time, the G7's informational campaigns reinforce the strategic alignment by keeping the forces abreast of equipment and strategic updates. Drawing a nexus to our central thesis, it is evident that equipment modernization is not just about acquiring advanced tools but about embedding them within the larger tapestry of national defense goals. This alignment is not a mere alignment of operational practices but a

harmonization of vision, purpose, and action. Ensure that every equipment addition or upgrade fortifies the defense force's strategic objectives and solidifies the nation's defense posture. As we transition to our concluding reflections, we must understand that equipment modernization, proficiency, and strategic alignment are not isolated pillars; they form the triad upon which modern defense excellence stands.

In the dynamic and ever-evolving theater of defense, the adage "preparedness ensures success" rings more accurate than ever. At the heart of this preparedness lies the symbiotic relationship between equipment modernization and proficiency in its

Operation. Revisiting our central thesis: "The National Guard Bureau G-3 must develop follow-up sustainment training as equipment modernization is occurring to assure timely and effective fielding, sustain proficiency, and maintain equipment readiness," it becomes unequivocally clear that the immediate and sustained post-NET periods are of paramount significance. The G3, G4, G5, and G7 collaboration ensures a holistic approach to this challenge – from immediate fielding and operational integration to long-term proficiency and strategic alignment. Each G-staff section's unique responsibilities contribute to seamlessly integrating modernized equipment into the defense framework. However, the journey does not end with introducing new equipment. The real challenge and, indeed, the most critical phase is the continuous adaptation and upskilling that follows—ensuring that our defense forces remain technologically advanced, strategically adept, and operationally proficient. The ramifications of neglecting this follow-up sustainment training are not just operational; they influence the very fabric of national defense, from strategic outcomes to fiscal implications. As we gaze ahead into a future marked by technological leaps and unprecedented challenges, the National Guard Bureau, backed by its G-staff sections, must stand resolute, ensuring that every modern equipment fielded is complemented by impeccable training, unwavering readiness, and an undying commitment to the nation's defense.

References

Department of Defense. (2022, October 27). Department of Defense releases its 2022 strategic reviews – National Defense Strategy, Nuclear Posture Review, and Missile Defense Review. <https://www.defense.gov/News/Releases/Release/Article/3201683/departments-of-defense-releases-its-2022-strategic-reviews-national-defense-strategy-nuclear-posture-review-and-missile-defense-review>

Office of Prepublication and Security Review, Department of Defense. (2022). Defense Manpower Data Center report fiscal year 2023. <https://prhome.defense.gov/Portals/52/Documents/RFM/MPP/docs/Cleared%20FY23%20DMPR%20-%20Approved.pdf?ver=z3UZ5K8VgTbCN6I0-nED1A%3d%3d>

U.S. Army Military Review. (2023). Military Review 2023. <https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/mr-english-2023/>

Beyond the Weekend: Unraveling the Reality of National Guard Member

CW4 Amada Aragon, National Guard Bureau



Introduction

In an ever-evolving landscape of defense and national security, the National Guard emerges as a steadfast pillar of strength, resilience, and readiness. From its inception as the militia to its formal establishment under the Military Act of 1903, the National Guard has remained integral to safeguarding the nation's interests, responding to crises, and preserving domestic and international peace. Comprised primarily of traditional members, the National Guard's service model typically entails monthly drills and annual training days, allowing individuals to balance their civilian pursuits with military obligations. However, this dual commitment presents unique challenges in meeting readiness requirements and advancing military careers. To address these complexities and optimize readiness and retention within the National Guard, the Army must offer flexible and accessible Professional Military Education (PME) options. This paper examines the multifaceted demands faced by National Guard members, including training, administrative duties, and PME requirements. It proposes strategies to bolster readiness, career progression, and retention within this vital component of our national defense.

Challenges to Achieve Readiness

Traditional National Guard members achieve readiness by attending training one weekend a month, generally Saturday and Sunday, for 12 months and two weeks or 14 days a year. During these training days, leaders have ten hours daily, from 0700 to 1700, to conduct training and ensure readiness. This time allowed excludes two hours for Physical Readiness Training (PRT) and personal hygiene and an additional hour for lunch. Commanders are left with seven hours per day for each of the two days per month for 12 months and 14 days per year, or 266 hours per year, to ensure readiness.

The specific number of hours needed to maintain an individual soldier's readiness depends on various factors such as mission requirements, operational tempo, unit readiness goals, and individual soldier's proficiency. Maintaining soldier readiness is a continuous process that involves ongoing training, education, and preparation to ensure that military personnel are fully capable of meeting the demands of their duties and contributing to the overall readiness of their units and the military. To appreciate the time constraints of traditional National Guard Members, below is an example of the yearly training requirements for legal personnel to achieve readiness within approximately 266 hours:

- In addition to the daily PRT, units must plan, set up, and perform the Army Combat Fitness Test (ACFT) twice a year, which can be time-consuming.
- Military personnel undergo a Periodic Health Assessment (PHA) to evaluate their overall health and medical readiness, which generally takes several days. Any identified health issues that may affect readiness require additional time to address.

- Soldiers must devote significant time to dental readiness, including preventive care, exams, education, screenings, and treatment.
- Guard members spend significant time on administrative tasks such as completing forms, reviews, and updating personal records.
- Soldiers spend time maintaining their security clearance, which includes undergoing thorough background investigations.
- Soldiers undergo extensive training in weapon familiarization, marksmanship fundamentals, live-fire exercises, qualification standards, safety, and maintenance to ensure military readiness and weapons proficiency.
- During military training, soldiers may be subjected to random drug tests without prior notice, taking them away from other training for several hours.
- Significant time is allocated to driver training, licensing, preventive maintenance checks, equipment services, and inventories during training.
- Much of the weekend training is dedicated to preparing and conducting ceremonies for awards, promotions, and retirements.
- Commanders dedicate a considerable amount of training time to ensure their personnel are well-prepared and informed about various threats. This includes training on information security, information awareness, threat awareness, and operations security. Soldiers also undergo extensive cyber awareness and anti-terrorism training to mitigate cyber threats and protect against terrorist activities. This training alone takes up a considerable amount of time. Additionally, personnel must receive training on handling controlled classified information according to Department of Defense (DoD) standards to maintain security protocols and compliance within the organization.
- Significant time is dedicated to training initiatives covering essential aspects such as Army Values, ethics, Sexual Harassment/Assault Response and Prevention (SHARP), Equal Opportunity, combating trafficking persons, resilience, and suicide prevention.
- An unimaginable number of hours are used in army leadership development, which encompasses a comprehensive approach to cultivating the knowledge, skills, and attributes required for effective leadership at all levels within the Army. This development process includes regular performance evaluations, such as Officer Evaluation Reports (OERs) and Non-Commissioned Officer Evaluation Reports (NCOERs). To assist in the development of evaluations, soldiers, and leaders participate in 360-degree assessments to create Individual Development Plans outlining the soldier goals, objectives, and areas for growth. Mentorship and coaching also help facilitate leadership development. Leadership courses and training are conducted at the unit level to assist in leadership development. Finally, leadership assignments and opportunities, such as command positions and staff roles, allow for the application of leadership principles in real-world situations. Leadership development demands a significant portion of the 266 yearly hours dedicated to readiness.
- The Mission Essential Tasks (METs) specific to JAG include a range of crucial functions essential for maintaining legal readiness within the organization. These tasks consume a significant portion of the 266 hours allotted for training each year. Commanders must ensure that soldiers receive Monthly Officer Professional Development (OPD) and Non-Commissioned Officer Professional Development

(NCOPD) classes to enhance their leadership skills, personal and professional knowledge, and technical abilities. These classes cover various topics, including training on legal assistance duties and responsibilities, Military Justice (MJ) updates, Financial Liability Investigations of Property Loss (FLIPLs), Article 15s, and administrative separations.

- National Guard JAG members require training on a range of legal subjects, such as the Law of Armed Conflict (LOAC), detention operations, rule of law, national security, Rules of Engagement (ROE), Status of Forces Agreements (SOFA), and fiscal law. They receive training on these topics and devote significant time to preparing and presenting briefings to other soldiers.
- The JAG Corps has several essential responsibilities, which include providing legal assistance during every drill and handling around 400-500 cases annually. Additionally, JAG personnel must support Soldier Readiness Processing (SRP) events, assist with General Officer Memorandum of Reprimand (GOMOR) rebuttals, help with administrative boards, conduct legal reviews on separation packets, and assist during hearings. Legal services take significant time, particularly considering the limited number of JAG personnel available to handle the high demand.

The numerous training requirements, administrative tasks, and leadership development programs are essential to achieving readiness and ensuring that military personnel are fully capable of meeting the demands of their duties. However, this continuous and demanding process requires significant time. Completing all the requirements is challenging within 266 hours, begging the question of how commanders achieve readiness for traditional National Guard members.

Impacts

The Status of Forces Surveys (SOFS) program is a personnel program mandated by Congress and managed by the Department of Defense (DoD). It provides valuable insight into policy impacts. The Office of People Analytics published the 2020 Status of Forces Survey Reserve Component Members (SOFS-R) on July 14, 2021. The results highlight the challenge of maintaining readiness within the limited time allotted, given the various training requirements, administrative tasks, and leadership development programs. The SOFS-R report presents separate results for the Army National Guard (ARNG) and Air National Guard (ANG). However, for the sake of illustration, the following results focus only on ARNG.

- ARNG traditional members who are not Active Guard Reserve or Full-Time Status members have spent 76 days in compensated (pay or points) status in the last 12 months. To provide context, the military requirement for ARNG traditional members is 38 days, the standard one weekend a month and two weeks a year.
- The average traditional member of the Army National Guard spent 9.3 hours per month on military duties without pay. The higher the rank, the greater the average amount of unpaid time spent on unit duties.

- E1 - E4 - 4.7 unpaid hours each month
- E-5 - E9 - 11.2 unpaid hours each month
- O1 – O3 - 15.6 unpaid hours each month
- O4 – O6 - 15.7 unpaid hours each month

- Traditional ARNG members spent 47 nights away from home due to military duty in the past year, not counting the days before and after out-of-town drills.
- 17% of Army National Guard members reported a decreased desire to stay in the military due to unexpectedly long absences.
- According to the recent report, the self-reported readiness of ARNG members is as follows:
 - 73% of ARNG component members reported being well prepared to perform their wartime job, while only 8% indicated being poorly prepared.
 - 67% of ARNG component members reported being well prepared to perform their wartime jobs because of their training, while 11% indicated being poorly prepared.
 - 59% of ARNG component members reported that their unit was well prepared to perform war-time missions, while 14% indicated being poorly prepared.
- Assuming that the ARNG member could stay in the military, 65% were likely to do so, and 22% were unlikely to.
- 67% of Army National Guard component members reported satisfaction with their military life-style, while only 12% reported dissatisfaction.

Pile on the Requirements

Achieving military readiness is complicated by many training requirements, which frequently result in uncompensated hours for National Guard soldiers—however, additional demands for PME further compound the concern. In addition to the extensive training commitments and operational responsibilities, soldiers must also fulfill PME requirements. These requirements encompass a range of educational programs and courses designed to enhance leadership skills, broaden professional knowledge, and prepare individuals for increased responsibilities within the military hierarchy.

Officers, warrant officers, and enlisted members of the National Guard undergo varied structured educational programs and training, or PME, throughout their careers to develop their leadership, management, and operational skills. By way of example only, below are the PME requirements for ARNG Legal Administrator Warrant Officers:

Army National Guard Warrant Officer Candidates (WOC) can attend either the Fort Novessel, Alabama resident course or the WOCS – RC at an ARNG Regional Training Institute, a three-phased course. Legal administrators aiming for CW2 must attend a four-week resident course in Charlottesville, Virginia. To reach CW3, soldiers must complete an 18-hour WOACC DL course followed by a four-week resident course. WOILE, a 5-week resident course at WOCC, is necessary for promotion to CW4. Lastly, the CW5 promotion requires completing the four-week WOSSE program after a DL component.

Incorporating PME into a demanding schedule further underscores Service members' challenges in effectively balancing their duties and civilian careers.

Proposed Solutions

The current structure and time allocation of PME courses make it challenging for traditional National Guard members to fulfill all obligations effectively and on time, significantly hindering their career progression. Policymakers must recognize National Guard members' unique constraints and obligations, such as balancing civilian careers, family responsibilities, and military duties. To address these challenges, policy leaders should revise PME courses to develop flexible options tailored to the schedules and needs of National Guard Members, including offering distance learning, weekend workshops, or more virtual training.

Policy leaders can look to two successful examples of other PMEs. The first example is from 2006, when the National Guard Bureau (NGB) and the Warrant Officer Career Center (WOCC) collaborated to develop a three-phase Warrant Officer Candidate School (WOCS) program for traditional guardsmen. Various Regional Training Institutes (RTIs) across the United States conduct this training.

Training policymakers can utilize RTI's existing infrastructure nationwide to deliver PME courses for WOBC, WOAC, WOILE, and WOSEE, similar to WOCS. This approach can minimize the financial burden on the Department of Defense (DoD). Soldiers who prefer attending the traditional WOC at Fort Novosel School can still do so.

The second example is the introduction of virtual courses by the WOCC. These courses are accessible from anywhere, making it easier for National Guard soldiers to balance their military and civilian responsibilities. Additionally, it reduces the need for travel and accommodations, significantly decreasing the overall cost of training. Therefore, traditional National Guard soldiers should have priority in enrollment in virtual courses. The blueprint for this type of adjustment already exists and can be offered more.

A hybrid approach that combines traditional resident training with virtual components or phased approaches can effectively provide face-to-face instruction benefits while offering the flexibility that National Guard members require. It is important to note that soldiers who prefer to attend traditional courses should be allowed to do so.

By adopting these strategies, the National Guard can overcome PME challenges and ensure that its members have access to high-quality training that enhances their readiness and capabilities and will increase retention in a world where recruitment efforts face significant challenges.

Conclusion

The National Guard's traditional members are crucial to our nation's defense and security. The multifaceted demands placed on National Guard soldiers require innovative approaches to maintain their readiness and ensure career progression. By leveraging flexible training options, embracing virtual platforms, and optimizing existing resources, the National Guard can enhance the capabilities of its soldiers and foster retention. Investing in the National Guard's readiness means investing in our nation's safety and security. Therefore, it is essential to prioritize the needs of Guard members in PME and training initiatives, ultimately leading to a more prepared and capable National Guard.

References

- Department of the Army. (2017). Army Regulation 350-1: Army Training and Leader Development. Washington, D.C.
- Department of the Army. (1994). Army Regulation 135-100: Appointment of Commissioned and Warrant Officers of the Army. Washington, D.C.
- Department of the Army. (2023). Department of the Army Pamphlet: 601-6: Army Warrant Officer (WO) Procurement Program. Washington, D.C. Department of the Army. (n.d.). Army mandatory training requirements: ArmyconnectTM. ArmyConnect. <https://armyconnect.me/army-mandatory-training-requirements/>
- Department of the Army. (n.d.). The Army Training Network. <https://atn.army.mil/>
- Department of the Army. (n.d.). United States Warrant Officer Career College. WOCC | Army University. <https://armyuniversity.edu/wocc/courses?p=WOCS>
- Doubler, M. D., & Vessey, J. W. (2003). Civilian in peace, soldier in war: The Army National Guard, 1636-2000. University Press of Kansas.
- Office of People Analytics. (2021, July 14). 2020 Status of Forces Survey Reserve. Military OneSource. https://cg-872b0f53-3ed8-4ee5-8078-10a830db319c.s3-us-gov-west-1.amazonaws.com/opa.mil-production1/reports/influencer_surveys/Influencer-Poll-W71_PUBLIC_RELEASE.pdf
- Office of People Analytics. (2020, November 25). 2019 Status of Forces Survey Reserve. Military OneSource. <https://download.militaryonesource.mil/12038/MOS/Surveys/2019-Status-of-Forces-Reserve-Briefing.pdf>
- Timmons, K. (2008, September 19). Training to be a Warrant Officer in the Guard and Reserves. National Guard News. <https://www.nationalguard.mil/News/Article-View/Article/573599/training-to-be-a-warrant-officer-in-the-guard-and-reserves/>

Force Structure Modernization to Support the Defense of Guam and the Marianas

CW4 Christopher Iwashita, Guam Army National Guard

The People's Republic of China (PRC), often called the pacing threat of the United States of America, remains focused on its aspirations for dominance in the INDOPACIFIC region. The PRC's overall growth and persistent actions in all domains against the U.S. and our allies pose significant challenges in the area, so much so that it is the focus of the U.S. National Defense Strategy (NDS) and National Security Strategy (NSS). The Island of Guam is the most strategically located U.S. Territory in the INDO-PACIFIC region. It is in the second island chain in the Pacific Ocean and, since 1945, has provided the U.S. with a location to project land, air, and sea power. Guam is home to about 170,000 American citizens from all branches of military service, including family members, DOD civilians, and most importantly, the indigenous people who call Guam home. For the safety and security of U.S. possessions and its people and to prepare the most significant Army footprint on the island for Large Scale Combat Operations (LSCO) against a formidable threat, the National Guard Bureau needs to support the immediate force structure implementation for air defense and cyber capabilities for the Guam Army National Guard (GUARNG) to support the defense of Guam and the Marianas, force modernization, and increased readiness in a multi-domain environment in the INDO-PACIFIC region.

The Guam Army National Guard leadership has great aspirations as the primary defenders of our island. From an ethical, moral, and legal view, our obligations to the U.S. Constitution and the oath we swore to protect America from our enemies are paramount to us as a people and as Soldiers from Guam. We hold the safety and security of our island and people close to our hearts, and we know the needs of the U.S. do not outweigh the needs of our island. We want to be known as the generation who did the most to protect our land, culture, traditions, and people in case of conflict. In the NDS, Guam is specifically mentioned numerous times under the topic of Homeland Missile Defense, stating that if Guam or any other U.S. Territory is attacked, it is considered an attack on the homeland, and the U.S. will respond appropriately.

Additionally, Guam is an essential operating base, home to crucial regional power projection platforms and logistical nodes. Finally, the buildup of Guam's missile defense will be a crucial component of integrated deterrence and bolster U.S. strategy in the region (U.S. Department of Defense, 2022). Convincing the Army to support force structure changes to our organization directly supports the NDS if GUARNG can gain air defense and cyber capabilities. Our largest unit is an Infantry Battalion, which is authorized 685 positions over five units and has never met 100% of the assigned strength. It is currently at about 90% filled, including Soldiers who are pending discharge or under a category called NOVAL, which identifies Soldiers who have not attended drill assemblies for over nine periods. By consolidating Soldiers from the five units into three infantry units, gaining an air defense artillery unit, and refocusing recruiting efforts against the new unit, our organization would significantly improve our overall posture

to defend the island against a potential attack by the adversary. In a Congressional Review of the Air Defense Artillery force structure in 2020, the Army has proposed that the Army National Guard receive three Indirect Fire Protection Capability (IFPC) units to defend against fixed and semi-fixed assets at the corps and division levels (Feikert, 2020).

Furthermore, the Army Structure Memorandum 2025-2029 (ARSTRUC) published on February 27, 2024, indicated the activation of four Active-Duty Indirect Fire Protection (IFP) battalions and one Patriot/IFPC composite battalion amongst other units in support of the defense of Guam (U.S. Department of the Army, 2024). Since the Patriot unit is activating in Guam, an argument can be made that creating these positions under the Guam Army National Guard force structure makes more sense. Recruiting the patriotic residents of Guam into those positions could save time, money, and logistics for the military. Guam National Guard Soldiers would not be required to rotate in and out of Guam as the unit would be organic to Guam. Again, residents of Guam would proudly serve in this unit, knowing they would play a crucial role in the defense of Guam.

Regarding missile defense, specifically the Iron Dome, Total Army Analysis already supported efforts to acquire more missile defense capabilities, namely, the Iron Dome, of which the U.S. has already received two from Israel. One Iron Dome was deployed and tested in 2021 in Guam by the 2-43 Air Defense Artillery Battalion out of Fort Bliss. Although the Iron Dome test was met with some pushback by the community, the capabilities displayed by the defense system proved that Guam would ultimately be protected more than if they had to rely on just the THAAD battery currently stationed in Guam. The Iron Dome was tested to validate successful integration into THAAD architecture to make it work towards a more layered defense (Olson, 2022). Guam is a patriotic land rich in America's beliefs of freedom and prosperity. Guam has some of the highest recruiting numbers per capita across all services, and this pride in serving our island and country extends into the Marianas Islands. Specifically, to the Guam Army National Guard, recruiting on Saipan, an island in the Commonwealth of the Northern Marianas Islands (CNMI) with a population of about 44,000, has been gaining momentum since reopening the recruiting efforts there with 52 recruits since May 2022. This point offers that creating an ADA force structure in the GUARNG could soften the "tyranny of distance" issue when transporting something like the Iron Dome from Texas to Guam. Transporting it by plane could take 10-12 hours, which gives the enemy much time to inflict damage. Imagine the response time if the GUARNG had a force structure to recruit against and gain Soldiers who were qualified to operate the Iron Dome, and it was already prepositioned in Guam. In this scenario, they may have a chance to survive a missile attack as the most likely course of action from the PRC or any enemy.

Regarding the National Cybersecurity Strategy (NCS), GUARNG has minimal capabilities in the cyber domain. GUARNG is already doing what it can by focusing on the fifth pillar: forging international partnerships to pursue shared goals (The White House, 2023). The extent of our cyber capabilities focuses only on education and outreach. The GUARNG has already hosted at least one Pacific Cybersecurity Summit where members from INDOPACOM, Department of Homeland Defense, NGB,

U.S. Cybersecurity Command, FBI, Cybersecurity and Infrastructure Security Agency, and local government and private sector were in attendance (Scott, 2023). However, GUARNG wants a modernized force structure and relevant capability in this domain, and we believe we have the people to do the jobs. One way to make us more capable and relevant is to provide a cyber / signal detachment or company-size element to the GUARNG so they can perform cyber defensive and possibly offensive actions in conjunction with the other military services, government, and private sector cyber warriors. Working with our current state partners in the Philippines, who are also strategically located in the first island chain, and our recently acquired state partners in Palau, building our partnerships and working together, especially in these cyber capabilities and integrated deterrence, will prove to be tremendous in our fight against our competitors especially in the INDO-PACIFIC region. GUARNG is also taking steps to support this strategy by participating in Cyber Shield. This National Guard exercise educates and informs cyber warriors on emerging and necessary skills, then gives them opportunities to defend against attacks on networks or other infrastructure.

Guam previously had signal capabilities, starting with a Signal detachment from 1991 to 2007. 2009, the 721st Signal Company served the Guam National Guard as a competent network and tactical signal systems unit. The unit remained at 100% strength during most of its existence before finally inactivating in March 2016. Once the unit was inactivated, Soldiers who decided to stay in the organization were reassigned to other units, mainly in the infantry battalion. Most Soldiers who ended up in a career field outside of signal left the organization either to active duty or some other reserve component or branch of service with available signal positions. For 25 years, the GUARNG remained semi-relevant in this domain. In this operating environment, cyber has become a priority by Army doctrine, the NDS, NSS, the NCS, and the GUARNG. A cyber and signal company or detachment is another capability the GUARNG leadership brings up nationally.

The Guam Army National Guard is a proud organization. Every Soldier, from the private who recently returned from basic training and advanced individual training to The Adjutant General, understands it is a critical time and place in the region. One day, the GUARNG will be forced to defend its home from those who do not share the same views as the U.S. to maintain a free and open INDO-PACIFIC region. With an updated force structure to include air defense and cyber capabilities to help defend the homeland, GUARNG can remain a ready and relevant force. We are the first responders to a crisis or conflict in Guam. The National Guard Bureau must support the immediate force structure concerns to support the Guam Army National Guard's readiness and modernization. We will ultimately be able to defend Guam, its people, and the Marianas.

References

- Feikert, A. (2020, June 23). U.S. Army Short-Range Air Defense Force Structure and Selected Programs: Background and Issues for Congress (R46463). Congressional Research Center. <https://crsreports.congress.gov/product/details?prodcode=R46463>
- Olson, W. (2012, October 22). U.S. Army is Testing Israel's Iron Dome Missile-Defense System on Guam. Stars and Stripes. https://www.stripes.com/theaters/asia_pacific/2021-10-22/guam-missile-defense-iron-dome-israel-3330839.html
- Scott, M. (2023, November 27). Guam Guard Hosts Central Pacific Cybersecurity Summit. Wwww.nationalguard.mil. <https://www.nationalguard.mil/News/Article-View/Article/3597857/guam-guard-hosts-central-pacific-cybersecurity-summit/>
- The White House. (2023). NATIONAL CYBERSECURITY STRATEGY. The White House. <https://www.whitehouse.gov/wp-content/uploads/2023/03/National-Cybersecurity-Strategy-2023.pdf>
- U.S. Department of Defense. (2022, October 27). National Defense Strategy.
- U.S. Department of Defense. (2024, February 27). Army Structure Memorandum 2025-2029 (ARSTRUC).



Inventory Management

CW4 Atacha P. Randolph, U.S. Virgin Islands National Guard

We have all heard the adage that time is money. Time is a valuable resource, so doing things as quickly as possible is essential. The adage could not be more accurate in the profession of arms. Army National Guard (ARNG) soldiers assemble one weekend a month and two weeks in a fiscal year. The Guard must remain ready and relevant to augment the active duty component to perform the go-to-war mission. Leaders at the highest levels recognize the need to perform more efficiently and provide time for junior leaders to focus on preparing to address our pacing threats. When General Randy A. George, Chief of Staff of the Army, addressed over 4000 attendees at the National Guard Association of the United States, 145th General Conference Professional Development Session, he reminded the audience that the Guard is nearly 40% of the Army operating force and that the Army never goes anywhere with 60% of the team. General George recognizes that the Guard is embedded on the battlefield. One of four of his focus areas is delivering ready combat formations, and the Guard must be prepared. He continued to explain that commanders should not have to take two weeks to lay things out when technology already exists through our commercial Partners to provide time for our young leaders to focus on delivering ready combat power and ready combat formations. To support the senior leader's intent, the National Guard should invest in inventory software to decrease the cost associated with property loss, decrease inventory time, and implement modernization that appeals to the future generation.

Our doctrine already provides the standards and instructions for implementing an electronic method for conducting inventories. Army Regulation 710-4 Property Accountability, December 2023, significantly modernized inventory procedures, incorporating inventories by exception, sampling, proxy, electronic methods, and remote inventory. Inventory methods may include direct physical touch, video, photographs, Automated Inventory Technology (AIT) devices, and other electronic methods if the method indicates the asset exists. The Army has made several attempts to implement an automated inventory system. Components of the computerized inventory terminal were issued as a part of the hardware package with Property Book Unit Supply- Enhanced (PBUSE) and Global Combat Support System-Army (GCSS-A); however, the Common Table of Allowance (CTA) provided the authorization, and eventually, the states and territories were tasked to fund the automation inventory hardware within their organizations. An Accountable Property Officer (APO) understands the struggle to get inventory on a training schedule to monitor completeness and receive the documented result on time, left alone to request an operational pause to create the infrastructure to implement an automated inventory system without the essential tools. Around 2008, Operation Clean Sweep was the Army's spring cleaning. These efforts aimed to gain better control over inventories, excess equipment, and supplies and ensure units had what they needed to train and deploy. The force later participated in the Item Unique Identification (IUID) marking campaign. The primary purpose of IUID is to assign a single, unambiguous, globally unique data

element known as the Unique Item Identifier (UII) to items that require unique item-level traceability. AR 700-145, chapter 2 outlines the UII criteria. IUID tags are for the traceability of end items and did not fill the automated inventory gap. This campaign is still ongoing.

In the book *Lying to Ourselves*, Leonard Wong and Dr. Stephen J. Gerras mention a restraint recommendation in propagating requirements and compliance checks. The authors challenge leaders from every headquarters level to analyze policies and directives regarding their impact on the force's cumulative load and time. There is a plethora of inventories prescribed in the Army's regulations. Cyclic or annual, Component of Major End Items Inventory, Change of Primary Hand Receipt Holder Inventory, Sensitive Items, Tool Crib, Component List of items in common areas, Organizational Clothing and Individual Equipment, Monthly Weapons and Ammunition, Sub hand Receipt Holder, Capital Asset, and Command Directed. By Army Regulation 710-4, ARNG must complete inventories of all end items and components 30 days before the effective date of the assumption of command. Is it realistic and feasible to pause all training events and accomplish this task during a 2-day Individual Duty Training period? When will the Commander find the time to develop a ready combat force during that training period?

The doctrine also provides compliance measures and financial consequences of up to one month's base pay or one-twelfth annual salary if found negligent in the loss of accountability in the custody and safekeeping of army property. In total, the dollar value of Financial Liability Investigation of Property Loss (FLIPL) for all army components, Active Duty (AD), Army National Guard (ARNG), and Army Reserve (AR) was \$1,609,864,038, information extracted from the Army Vantage database and represents the period from March 2023 to March 2024. Undoubtedly, ARNG's dollar value of property loss of \$238,140,278.00 can cover the cost of research to identify a commercial Partner who can complete the installation's assessment, propose a conventional way to conduct inventories and do away with the analog process. General George challenged the Guard to look at how we do inventories; he made the parallel to Walmart; they have a big warehouse, and an inventory is done overnight. To the cost of the Guards FLIPL dollar amount, it begs the questions: Are items lost, or is the task too daunting to continue, or is there not enough time to continue, and the final recourse would be to let the adjudication process take care of the rest?

In many cases, the latter may be palatable to that incoming Commander approaching the effective date of assuming command. The onus is on the outgoing Commander, a part-time officer in the Guard who cannot be removed from his full-time civilian job, to dedicate the necessary time and resources to this part-time responsibility. Lost, stolen, or damaged inventory is a severe problem for mission-critical operations. When accountability is expected, audit and compliance failures cause irreparable damage in modern times. Manual systems are frustrating and cause further delay and confusion, especially with high turnover. Solving inventory problems does not need to be expensive or add to complexities.

Market research indicates that an inventory software package can cost between \$35,000 and \$150,000 depending on the number of handheld mobile computers and portable printers and the number of

devices being tagged, ranging from 3,000 to 15,000 items. Based on the installation's requirements, brigade-level formation packages, including the Tool Cribs, Arms Rooms, unit-level expendable, and unit non-expendable, can scale up to \$425,000. Customization can include integrating Global Combat Support System-Army (GCSS-A), Support Supply Activity, and automation enhancements such as Robotic Process Automation (RPA), Artificial Intelligence (AI), and Dashboarding via Application Program Interface (API) functionality. The Guard can measure the return on investment in implementing a Rapid Asset Management Platform in months and not years. The impact of technology in this process includes the individual soldier performing inventory functions such as receive, store, issue, and turn-in. Mission-critical impacts include readiness, accuracy of inventory, and correct location. Time-saving measures have a special meaning for the National Guard because of the statutory time constraints on the number of assembly periods authorized to train for the federal mission.

TRADOC Pamphlet 525-92 gives us a glimpse at our future operating environment through the lens of the Era of Contested Equality (2035-2050). It is an era of robust innovation in technology and convergence. This period is marked by significant technological breakthroughs and convergences regarding capabilities, leading to substantial changes in how the forces prepare and fight. Our commercial Partners have always been alongside us and on the battlefield throughout every conflict. Nesting them into our garrison operations is essential to foster that relationship. Can we imagine a world where tool crib inventories take about 30 minutes to complete? Outsourcing the task to assess all the durable items stored in the tool room cabinets and around the maintenance bays and investing in Radio Frequency Identification (RFID) tags and a few interrogators can make this a reality. We would know what we have, avoid duplicates, and do away with excess while saving money. The unit can be used to improve equipment on-hand readiness. Envision a supply room like the "Amazon marketplace store," with the interrogator at the exit door and the motor pool gates. Envision an inventory system that can produce a report to indicate items out on a convoy with the capability to generate reports for what should still be remaining in the supply room, motor pool, and installation. Every item in a grocery store has a scannable barcode.

Similarly, every component of the end item can be tagged to avoid laying out every item to count manually. The Army Bring Your Own Device (BYOD) initiative allows a vehicle operator in the motor pool to use a personal cell phone to scan assigned equipment and transmit the results to the Supply Sergeant in the Supply Room, which is undoubtedly a game changer. The National Guard should invest in inventory software to decrease the cost associated with property loss and decrease inventory time. It is incumbent on National Guard Installation Commanders to prepare their organization to operate in the Guard of 2035 and beyond.

References

Army Office of the Deputy Chief of Staff, G-6. (2024, February 5). BYOD brings personal devices to the Army network. The United States Army.

George, R. A. (2023, August 18-21). Remarks at the National Guard 145th General Conference. Reno, NV. https://www.youtube.com/watch?v=6TVj_-O4r2I

HI-TECH Business Systems. (n.d.). HI-TECH RFID – RFID for military. (n.d.) High Technology Rapid Asset Management Platform. <https://hi-techrfid.com/>

The Army Vantage. (n.d.). <https://vantage.army.mil/>

The Official Publication of the National Guard Association of the United States. (2023, September/October).

TRADOC Pamphlet 525-92. (2019, October). <https://adminpubs.tradoc.army.mil/pamphlets/TP525-92.pdf>

U.S. Department of the Army. (2020, December 16). Army Regulation 700-145: Item unique identification. https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN31090-AR_700-145-000-WEB-1.pdf

U.S. Department of the Army. (2023, December). Army Regulation 710-4: Property accountability. <https://armypubs.army.mil/>

U.S. Department of the Army. (2024, March). Army Regulation 735-5 §10: Relief of responsibility and accountability. <https://armypubs.army.mil/>

Walker, A. (2023, March 29). Inside Amazon Fresh stores | The future of retail shopping? [Video]. YouTube. <https://youtube.com>

Wong, L., & Gerras, S. J. (2015). Lying to ourselves: Dishonesty in the Army profession. Carlisle, PA: U.S. Army War College Press. Available from <https://press.armywarcollege.edu/monographs/466>





United States Army Warrant Officer Career College Commandant's Professional Reading List

While doctrine should form the foundation of a Soldier's reading, there are other books, essays, and speeches that can further refine a Soldier's understanding of our profession and the complexity of the human condition.

ADP 1 (The Army), ADP 3-0 (Operations), FM 3-0 Operations, and FM 7-0 (Training) should be the absolute basics that every Soldier should both consume and comprehend, whether by reading, listening, or watching. Your efforts should not be limited to just these three publications, and you should further inquire into the doctrine of your Warfighter Function (WfF) and the symbiotic role that the other WfFs play in the execution of your particular WfF.

However, there are works beyond doctrine that can assist Soldiers in grasping a more refined understanding of both our shared profession and complex issues. That is what we have attempted to provide in the recommendations below. The recommendations below are not confined to just histories but span the literary mosaic of prose.

Warrant Officer Candidates (WOCs) / Warrant Officer One (WO1)

1. The Declaration of Independence by the Founding Fathers

How are we as Americans different from other peoples? Why did we depart from the monarchy of Great Britain? These answers and more can be found in The Declaration of Independence. The declaration was the initial promise of a representative government; the constitution was the fulfillment of that promise. On July 4, 1776, the Second Continental Congress issued a unanimous declaration: the 13 North American colonies would be the 13 United States of America, free and independent of Great Britain. Drafted by Thomas Jefferson, the declaration set forth the terms of a new form of government with the following words: "We hold these Truths to be self-evident, that all men are created equal, that they are endowed with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness."

2. The Constitution of the United States of America by the Founding Fathers

You swore an oath to defend it: The Constitution. You really might want to know what is in it. The Constitution is the landmark legal document of the United States. The U.S. Constitution comprises the primary law of the federal government. Signed by the members of the Constitutional Convention in Philadelphia on September 17, 1787, the Constitution outlines the powers and responsibilities of the three chief branches of the federal government, as well as the basic rights of the citizens of the United States.

3. The Bill of Rights by the Founding Fathers

In our modern era, we are bombarded by information campaigns about perceived rights or other campaigns to diminish our rights, but what are our actual rights as Americans? The Bill of Rights is a great place to go to see what our actual rights are. The Bill of Rights itself is a complex historical document originally designed to protect the people against self-interested government and revised by the 14th amendment to guard minority against majority. In our continuing battles over freedom of religion and expression, arms bearing, privacy, states' rights, and popular sovereignty, the Bill of Rights is still an extremely relevant document in our modern context.

4. A Message to Garcia by Elbert Hubbard

Although a work of historical fiction, a great message to be gleaned is sometimes, as officers and leaders, we must just get the job done. There is a place for dialogue and feedback from subordinates, but there are also points when we just have to roll up our sleeves and get to work. This popular essay is about a Soldier who takes the initiative to accomplish a daunting and difficult task without questions or objections and graciously accomplishes the task. This essay is often used in business and life as a motivational example to readers about applying a positive attitude toward achieving a successful life.

5. Rifleman Dodd by Cecil Forester

Although a work of historical fiction, it clearly captures the idea of never stop fighting. The author also captures the two key features of Soldiering: self-reliance and military duty. It is the tale of Rifleman Dodd, a Soldier of the 95th Regiment, who is separated from his unit and trapped behind enemy lines in Portugal during the bloody Peninsular Wars. It's an excellent glimpse into the hardships of military life during the Napoleonic Wars; and to his credit, Forester also provides chapters describing the same experience from the perspective of the French units.

6. The Defense of Duffer's Drift by Ernst Swinton

Although a work of historical fiction, there are quite a few lessons to be gleaned from this work. The work provides us a great example of what wargaming, a component of step-four COA analysis in the Military Decision-Making Process (MDMP) potentially looks like. The book is a fundamental and yet insightful analysis of a small unit's tactics in defending a strategic objective given limited communications, resources, and manpower, all of which is narrated in a distinct and unique manner through a created character named Lt. Backsight Forethought and his series of dreams. Through the main character's point of view, Major General Swinton is able to delineate many of the integral facets of a successful defense in an enjoyable and atypical manner. The author's many years of military service and experience are quite evident throughout the book and are most revealed through the twenty-two lessons learned and applied by Lt. Forethought. Of those 22 lessons, three in particular seemed to be of extreme relevance to a new platoon leader: the urgency and importance of first setting security and preparing defenses, the use of cover and concealment, and the creation of clear fields of fire.

7. The Red Badge of Courage by Stephan Crane

Although a work of historical fiction, the author goes into great regarding the emotional toll of conflict and life post-conflict. The main character, Henry Fleming, has joined the Union army because of his romantic ideas of military life; but soon finds himself in the middle of a battle against a regiment of Confederate Soldiers. Terrified, Henry deserts his comrades. Upon returning to his regiment, he struggles with his shame as he tries to redeem himself and prove his courage.

8. Ender's Game by Orson Card

Although a work of fiction, the novel posits some interesting questions. How do we fight an enemy that has changed fundamentally? How do we train our future leaders to fight and win? What is our collective and individual relationship to power? To do this, the author creates Andrew "Ender" Wiggin who thinks he is playing computer simulated war games; he is, in fact, engaged in something far more desperate. The result of genetic experimentation, Ender may be the military genius Earth desperately needs in a war against an alien enemy seeking to destroy all human life. The only way to find out is to throw Ender into ever harsher training, to chip away and find the diamond inside or destroy him utterly. Ender Wiggin is 6 years old when it begins. He will grow up fast.

9. Band of Brothers by Stephen Ambrose

What do Large Scale Ground Combat Operations (LSCO) and Multi-Domain Operations look like? World War II provides us with many excellent examples. The author selected Easy Company, 506th Airborne Division, US Army, to trace their activities throughout the conflict. E. Co. kept getting tough assignments – responsible for everything from parachuting into France early D-Day morning to the capture of Hitler's Eagle's Nest at Berchtesgaden. In "Band of Brothers," Ambrose tells of the men in this brave unit who fought, went hungry, froze, and died; a company that took 150% casualties and considered the Purple Heart a badge of office. Drawing on hours of interviews with survivors as well as the Soldiers' journals & letters, Stephen Ambrose recounts the stories, often in the men's own words, of these American heroes.

10. Tribe by Sebastian Junger

The tribal instinct is potentially the most powerful instinct humans have, but there are both positive and negative aspects to this instinct. This is all the more reason for us to understand them, especially how they affect our fellow Soldiers and ourselves. The author delves into the ancient tribal human behaviors – loyalty, inter-reliance, cooperation – that flare up in communities during times of turmoil and suffering. These are the very same behaviors that typify good Soldiering and foster a sense of belonging among troops, whether they're fighting on the front lines or engaged in non-combat activities away from the action. Drawing from history, psychology, and anthropology, bestselling author Sebastian Junger shows us just how at odds the structure of modern society is with our tribal instincts, arguing that the difficulties many veterans face upon returning home from war do not stem entirely from the trauma they've suffered, but also from the individualist societies they must reintegrate into.

11. Starship Troopers by Robert Heinlein

Although a work of fiction, there are many insights that can be gleaned from this work. The movie does the book little justice, although to many the movie is a cult classic. The simple premise is that a recruit of the future goes through the toughest boot camp in the universe and into battle with the Terran Mobile Infantry against mankind's most alarming enemy.

12. Invisible Armies by Max Boot

Insurgencies are nothing new, and the author describes a large swath of them in great candor and detail. The author begins with the first insurgencies in the ancient world – when Alexander the Great discovered that fleet nomads were harder to defeat than massive conventional armies. Max Boot, best-selling author and military advisor in Iraq and Afghanistan, masterfully guides us from the Jewish rebellion against the Roman Empire up through the horrors of the French-Indochina War and the

shadowy post-9/11 battlefields of today. Relying on a diverse cast of unforgettable characters – not only Mao and Che but also the legendary Italian nationalist Giuseppe Garibaldi, the archaeologist-turned-military commander T. E. Lawrence, and the “Quiet American” Edward Lansdale, among others – Boot explodes everything we thought we knew about unconventional combat. The result is both an enthralling read and our most important work on nontraditional warfare.

13. Can't Hurt Me by David Goggins

A look through the lens and perspective of a truly epic human being and his transformational journey through life. (One of our faculty members recommends listening to the audiobook, which is a podcast-esq format.) Are you a victim or are you the hero in your own story? Goggins' choice is the latter. David Goggins' childhood was a nightmare – poverty, prejudice, and physical abuse colored his days and haunted his nights. But through self-discipline, mental toughness, and hard work, Goggins transformed himself from a depressed, overweight young man with no future into a U.S. Armed Forces icon and one of the world's top endurance athletes.

14. Warriors and Citizens by Jim Mattis

A compilation of research attempts to define what do we as Service Members (SM) looks like and how are we different from the citizenry of the United States. What, in particular, are the common origins of our fellow SMs and what are the commonalities we share? A diverse group of contributors offers different perspectives on whether the different experiences of our military and the broader society amounts to a “gap” and if the American public is losing connection to its military. They analyze extensive polling information to identify those gaps between civilian and military attitudes on issues central to the military profession and the professionalism of our military; determine which, if any, of these gaps are problematic for sustaining the traditionally strong bonds between the American military and its broader public; analyze whether any problematic gaps are amenable to remediation by policy means; and assess potential solutions.

15. Start with Why by Simon Sinek

Mission Command is the Army's approach to command and control that empowers subordinate decision-making and decentralized execution appropriate to the situation. Commanders will delegate appropriate authority to company-grade officers based upon a judgment of their capabilities and experience, allowing them to exercise their own initiative and judgement. All leaders must understand that mission success is dependent on achieving the end state and starting with the “Why” (the purpose). Sinek explains that when leaders fail to express the “why,” teams and organizations may experience increased levels of stress and disorder. Understanding why we do what we do inspires us and those around us leading to organizational success.

Principles outlined in this book can increase company-grade officer's understanding and application of mission command and their role in supporting commanders and staffs, their peers, and their subordinates, ultimately improving the organization and its culture.

16. The Attributes by Rich Diviney

Lifelong learning and development are critical to becoming a better human being. You are not perfect as you are, and neither is anyone else. If this is true, how can you get better? What does better look like? The author of this book makes a noble attempt to look at the attributes of many epic human beings. The author, Rich Diviney, served twenty years as a Navy officer and SEAL and was intimately involved in a specialized SEAL selection process which whittled a group of hundreds of extraordinary candidates

down to a handful of the most elite performers. Diviney was often surprised by which candidates washed out and which succeeded. Some could have all the right skills and still fail, while others he might have initially dismissed would prove to be top performers. The seemingly objective criteria weren't telling him what he most needed to know: who would succeed in one of the world's toughest military assignments? Diviney defines the core attributes in fresh and practical ways and shares stories from the military, business, sports, relationships, and even parenting to show how understanding your own attributes and those of the people around you can create optimal performance in all areas of your life.

17. The Inner Ring by C.S. Lewis

This speech/essay attempts to define the two principal competency hierarchies of human beings. As an officer, more specifically a warrant officer, you have a choice to make: whether to be a careerist or a professional. This essay should help you make a better choice between the two. The author, Clive Staples Lewis, was one of the intellectual giants of the 20th century and arguably one of the most influential writers of his day. He was a fellow and tutor in English Literature at Oxford University until 1954. He was unanimously elected to the Chair of Medieval and Renaissance Literature at Cambridge University, a position he held until his retirement. He wrote more than 30 books, allowing him to reach a vast audience; and his works continue to attract thousands of new readers every year. His most distinguished and popular accomplishments include *Mere Christianity*, *Out of the Silent Planet*, *The Great Divorce*, *The Screwtape Letters*, and the universally acknowledged classics *The Chronicles of Narnia*.

18. The Future of Land Warfare by Michael O'Hanlon

This work offers an analysis of the future of the world's ground forces: Where are large-scale conflicts or other catastrophes most plausible? Which of these could be important enough to require the option of a U.S. military response? And which of these could in turn demand significant numbers of American ground forces in their resolution? O'Hanlon is not predicting or advocating big American roles in such operations, but cautioning against overconfidence that we can and will avoid them. Hanlon considers a number of illustrative scenarios in which large conventional forces may be necessary: discouraging Russia from even contemplating attacks against the Baltic states; discouraging China from considering an unfriendly future role on the Korean peninsula; handling an asymmetric threat in the South China Sea with the construction and protection of a number of bases in the Philippines and elsewhere; managing the aftermath of a major and complex humanitarian disaster superimposed on a security crisis, perhaps in South Asia; coping with a severe Ebola outbreak, not in the small states of West Africa but in Nigeria, at the same time that country falls further into violence; addressing a further meltdown in security conditions in Central America.

19. The Defense of Jisr al-Doreaa by Michael L. Burgoyne

"The Defense of Jisr al-Doreaa" is an instructional parable of counterinsurgency that addresses the myriad of difficulties associated with war in the postmodern era. In this tactical primer based on the military classic "The Defense of Duffer's Drift," a young officer deployed for the first time in Iraq receives ground-level lessons about urban combat, communications technology, and high-powered weaponry in an environment where policy meets reality. Over the course of six dreams, the inexperienced Soldier fights the same battle again and again, learning each time – the hard way – which false assumptions and misconceptions he needs to discard in order to help his men avoid being killed or captured. As the protagonist struggles with his missions and grapples with the consequences of his mistakes, he develops a keen understanding of counterinsurgency fundamentals and the potential pitfalls of working with the native population.

Chief Warrant Officer Two (CW2) / Chief Warrant Officer Three (CW3)

1. Common Sense Training by Arthur Collins

A working philosophy for leaders with a good in depth look at training and a direct, no-nonsense approach. The book provides instruction for leadership, education, and training within resource-constrained environments. While branded for the military, this guide contains information vital to leadership and training for any workforce, civilian or military.

2. The Killer Angels by Michael Shaara

Although historical fiction, it brings alive the four most bloody and courageous days of our nation's history: two armies fought for two dreams. One dreamed of freedom, the other of a way of life. Far more than rifles and bullets were carried into battle. There were memories. There were promises. There was love. And far more than men fell on those Pennsylvania fields. Shattered futures, forgotten innocence, and crippled beauty were also the casualties of war. "The Killer Angels" is unique, sweeping, unforgettable – a dramatic re-creation of the battleground for America's destiny.

3. Gates of Fire by Steven Pressfield

Although historical fiction, the book brings to life a battle that is a testimony to the grit of the Spartans. At Thermopylae, a rocky mountain pass in northern Greece, the feared and admired Spartan Soldiers stood 300 strong. Theirs was a suicide mission, to hold the pass against the invading millions of the mighty Persian army. Day after bloody day, they withstood the terrible onslaught, buying time for the Greeks to rally their forces. Born into a cult of spiritual courage, physical endurance, and unmatched battle skill, the Spartans would be remembered for the greatest military stand in history – one that would not end until the rocks were awash with blood, leaving only one gravely injured Spartan squire to tell the tale.

4. 1776 by David McCullough

In this masterful book, David McCullough tells the intensely human story of those who marched with General George Washington in the year of the Declaration of Independence – when the whole American cause was riding on their success, without which all hope for independence would have been dashed, and the noble ideals of the Declaration would have amounted to little more than words on paper.

5. Ghost Fleet by P.W. Singer and August Cole

Although a work of fiction, it is a great look into what LSCO and MDO may look like in a future conflict. In the novel, the United States, China, and Russia eye each other across a 21st-century version of the Cold War, which suddenly heats up at sea, on land, in the air, in outer space, and in cyberspace. The fighting involves everything from stealthy robotic-drone strikes to old warships from the navy's "ghost fleet." Fighter pilots unleash a Pearl Harbor-style attack; American veterans become low-tech insurgents; teenage hackers battle in digital playgrounds; Silicon Valley billionaires mobilize for cyberwar; and a serial killer carries out her own vendetta. Ultimately, victory will depend on blending the lessons of the past with the weapons of the future.

6. The Forgotten Soldier by Guy Sajer

Forgotten Soldier recounts the horror of World War II on the eastern front, as seen through the eyes of a teenaged German Soldier. At first an exciting adventure, young Guy Sajer's war becomes, as the German invasion falters in the icy vastness of the Ukraine, a simple, desperate struggle for survival against cold, hunger, and above all the terrifying Soviet artillery. As a member of the elite Gross Deutschland Division, he fought in all the great battles from Kursk to Kharkov.

7. The Anatomy of Courage by Charles Moran

Fear, and man's attempt to master it, is of eternal interest and just as significant today as when Moran, as a young medical officer, went to the trenches in 1914 to research the subject scientifically. He asked why a man can appear to be as brave as a lion one day and break the next and, crucially, "What can be done to delay or prevent the using up of courage?" First published in 1945, this early groundbreaking account of the psychological effects of war, recounted by means of vivid first-hand observation and anecdote, came at a time when shell-shock was equated with lack of moral fiber. In 1940, Moran became Churchill's doctor, and his position as a one of history's most important war physicians was secured. His humane, considered observations, scientific analysis, and proposed solutions constitute one of the great First World War sources. However, they are perhaps just as relevant to our own conflict-ridden times.

8. The Soldier's Load by S.L.A. Marshall

Marshall's experiences in World War I and II, including the testimony of the men he interviewed, led him to think that fear and fatigue were somehow related. When on Makin, he found that salt tablets and water restored his self-control, and he realized that the abject cowardice he felt was caused by fatigue or dehydration or some other physiological condition. Just what it was, he could not identify. It took the testimony of the Soldiers who landed on Omaha Beach to give him the corroboration he needed.

9. The Future is Faster Than You Think by Peter Diamandis and Steven Kotler

Technology is accelerating far more quickly than anyone could have imagined. During the next decade, we will experience more upheaval and create more wealth than we have in the past hundred years. In this gripping and insightful roadmap to our near future, Diamandis and Kotler investigate how wave after wave of exponentially accelerating technologies will impact both our daily lives and society as a whole.

10. Like War by P.W. Singer and Emerson Brooking

Through the weaponization of social media, the internet is changing war and politics, just as war and politics are changing the internet. Terrorists livestream their attacks, "Twitter wars" produce real-world casualties, and viral misinformation alters not just the result of battles, but the very fate of nations. War, tech, and politics have blurred into a new kind of battle space that plays out on our smartphones.

11. A Conflict of Visions by Dr. Thomas Sowell

Controversies in politics arise from many sources, but the conflicts that endure for generations or centuries show a remarkably consistent pattern. In this classic work, Thomas Sowell analyzes this pattern. He describes the two competing visions that shape our debates about the nature of reason, justice, equality, and power: the "constrained" vision, which sees human nature as unchanging and

selfish, and the “unconstrained” vision, in which human nature is malleable and perfectible. “A Conflict of Visions” offers a convincing case that ethical and policy disputes circle around the disparity between both outlooks.

12. Battlegrounds by H.R. McMaster

From Lt. General H. R. McMaster, U.S. Army (Ret.), the former National Security Advisor and author of the bestselling classic “Dereliction of Duty,” comes a bold and provocative re-examination of the most critical foreign policy and national security challenges that face the United States and an urgent call to compete to preserve America’s standing and security. Across multiple administrations since the end of the Cold War, American foreign policy has been misconceived, inconsistent, and poorly implemented. As a result, America and the free world have fallen behind rivals in power and influence. Meanwhile threats to security, freedom, and prosperity, such as nuclear proliferation and jihadist terrorism, have grown. In “Battlegrounds,” McMaster describes efforts to reassess and fundamentally shift policies while he was National Security Advisor. He provides a clear pathway forward to improve strategic competence and prevail in complex competitions against our adversaries. “Battlegrounds” is a groundbreaking reassessment of America’s place in the world, drawing from McMaster’s long engagement with these issues, including 34 years of service in the U.S. Army with multiple tours of duty in battle-grounds overseas and his 13 months as National Security Advisor in the Trump White House. It is also a powerful call for Americans and citizens of the free world to transcend the vitriol of partisan political discourse, better educate themselves about the most significant challenges to national and international security, and work together to secure peace and prosperity for future generations.

13. Factfulness by Hans Rosling

When asked simple questions about global trends – “What percentage of the world’s population lives in poverty?”, “Why is the world’s population increasing?”, “How many girls finish school?” – we systematically get the answers wrong: so wrong that a chimpanzee choosing answers at random will consistently outguess teachers, journalists, Nobel laureates, and investment bankers. In “Factfulness,” Professor of International Health and global TED phenomenon Hans Rosling, together with his two long-time collaborators, Anna and Ola, offers a radical new explanation of why this happens. They reveal the 10 instincts that distort our perspective—from our tendency to divide the world into two camps (usually some version of us and them) to the way we consume media (where fear rules) to how we perceive progress (believing that most things are getting worse). Our problem is that we don’t know what we don’t know, and even our guesses are informed by unconscious and predictable biases. It turns out that the world, for all its imperfections, is in a much better state than we might think. That doesn’t mean there aren’t real concerns. But when we worry about everything all the time instead of embracing a worldview based on facts, we can lose our ability to focus on the things that threaten us most.

14. The End of the World is Just the Beginning by Peter Zeihan

For generations, everything has been getting faster, better, and cheaper. Finally, we reached the point that almost anything you could ever want could be sent to your home within days – even hours – of when you decided you wanted it. America made that happen, but now America has lost interest in keeping it going. Globe-spanning supply chains are only possible with the protection of the U.S. Navy. The American dollar underpins internationalized energy and financial markets. Complex, innovative industries were created to satisfy American consumers. American security policy forced warring nations to lay down their arms. Billions of people have been fed and educated as the American-led trade system spread across the globe. All of this was artificial. All this was temporary. All this is ending. In “The End of the World is Just the Beginning,” author and geopolitical strategist Peter Zeihan maps out the next

world: a world where countries or regions will have no choice but to make their own goods, grow their own food, secure their own energy, fight their own battles, and do it all with populations that are both shrinking and ageing. The list of countries that make it all work is smaller than you think, which means everything about our interconnected world – from how we manufacture products, to how we grow food, to how we keep the lights on, to how we shuttle stuff about, to how we pay for it all – is about to change.

15. Leaders Eat Last by Simon Sinek

This book takes us to the next level of understanding why some organizations do better than others by detailing all elements of the leadership challenge. For a company to be successful, its leaders need to understand the true purpose of their organization and use that purpose as a North star, not only in how they conduct themselves as a business, but also in how they care for those in their charge.

16. Prioritizing Development by Bjorn Lomborg

This book is a unique guide to making the world a better place. Experts apply a critical eye to the United Nations' Sustainable Development agenda, also known as the Global Goals, which will affect the flow of \$2.5 trillion of development aid up until 2030. Renowned economists, led by Bjorn Lomborg, determine what pursuing different targets will cost and achieve in social, environmental, and economic benefits. There are 169 targets, covering every area of international development – from health to education, sanitation to conflict. Together, these analyses make the case for prioritizing the most effective development investments. A panel of Nobel Laureate economists identify a set of 19 phenomenal development targets and argue that this would achieve as much as quadrupling the global aid budget.

17. The Personal Memoirs of Ulysses S. Grant by Grant

“The Personal Memoirs of Ulysses S. Grant” is the first comprehensively annotated edition of Grant's memoirs, clarifying the great military leader's thoughts on his life and times through the end of the Civil War, offering his invaluable perspective on battlefield decision-making. An introduction contextualizes Grant's life and significance, and lucid editorial commentary allows his voice and narrative to shine through. With annotations compiled by the editors of the Ulysses S. Grant Association's Presidential Library, this definitive edition enriches our understanding of the pre-war years, the war with Mexico, and the Civil War. Grant provides essential insight into how rigorously these events tested America's democratic institutions and the cohesion of its social order.

18. The Moon is Down by John Steinbeck

“The Moon is Down” is a fictional work by Steinbeck, author of “The Grapes of Wrath,” and several other books as well as being a Nobel Prize recipient for literature. The setting is a small town that has been invaded by the Nazis. They seized the mayor's home as their headquarters, they rationed the food, and they publicly shot the first men who rebelled against their oppression. They were the conquerors, but the hatred was deep in the eyes of the people. This book offers insight into how citizens whose land has been invaded feel toward the oppressors, even if the oppressors believe they are invading for the right reasons.

Chief Warrant Officer Four (CW4) / Chief Warrant Officer Five (CW5)

1. Patton by Carlo D'este

Based on exclusive access to his personal and public papers, and with the full cooperation of his family, "Patton" is an intimate look at the colorful, charismatic, and sometimes controversial man who became the one general the Germans respected and feared the most during World War II.

2. Washington's Crossing by David Fischer

Six months after the Declaration of Independence, the American Revolution was all but lost. A powerful British force had routed the Americans at New York, occupied three colonies, and advanced within sight of Philadelphia. Yet, as David Hackett Fischer recounts in this riveting history, George Washington – and many other Americans – refused to let the Revolution die. On Christmas night, as a howling nor'easter struck the Delaware Valley, he led his men across the river and attacked the exhausted Hessian garrison at Trenton, killing or capturing nearly 1,000 men. A second battle of Trenton followed within days. The Americans held off a counterattack by Lord Cornwallis's best troops, then were almost trapped by the British force. Under cover of night, Washington's men stole behind the enemy and struck them again, defeating a brigade at Princeton. The British were badly shaken. In 12 weeks of winter fighting, their army suffered severe damage, their hold on New Jersey was broken, and their strategy was ruined. Fischer's richly textured narrative reveals the crucial role of contingency in these events. We see how the campaign unfolded in a sequence of difficult choices by many actors, from generals to civilians, on both sides. While British and German forces remained rigid and hierarchical, Americans evolved an open and flexible system that was fundamental to their success. The startling success of Washington and his compatriots not only saved the faltering American Revolution but helped to give it new meaning.

3. The Face of Battle by John Keegan

"The Face of Battle" is military history from the battlefield: a look at the direct experience of individuals at 'the point of maximum danger.' It examines the physical conditions of fighting, the particular emotions and behavior generated by battle, as well as the motives that impel Soldiers to stand and fight rather than run away. In his scrupulous reassessment of three battles, John Keegan vividly conveys their reality for the participants, whether facing the arrow cloud of Agincourt, the levelled muskets of Waterloo, or the steel rain of the Somme.

4. The Guns of August by Barbara Tuchman

The Author, Tuchman, re-creates the first month of World War I: 30 days in the summer of 1914 that determined the course of the conflict, the century, and ultimately our present world. Beginning with the funeral of Edward VII, Tuchman traces each step that led to the inevitable clash, with all sides plotting their war for a generation. "The Guns of August" is dizzyingly comprehensive and spectacularly portrayed with Tuchman's famous talent for evoking the characters of the war's key players.

5. The Art of War by Sun Tzu

Twenty-five-hundred years ago, Sun Tzu wrote this classic book of military strategy based on Chinese warfare and military thought. Since that time, all levels of military have used the teaching of Sun Tzu. Warfare and civilization have adapted these teachings for use in politics, business and everyday life. "The Art of War" is a book which should be used to gain advantage of opponents in the boardroom and

battlefield alike.

6. Battle Exhortation by K. Yellin

This work provides a study of the motivational speech of military leaders across the centuries. The author offers an examination of the symbolic strategies used in preparing troops for imminent combat in this interdisciplinary look at a mode of discourse that has played a prominent role in military history.

7. Once an Eagle by A. Myre

“Once An Eagle” is the story of one special man, a Soldier named Sam Damon, and his adversary over a lifetime, fellow officer Courtney Massengale. Damon is a professional who puts duty, honor, and the men he commands above self-interest. Massengale, however, brilliantly advances by making the right connections behind the lines and in Washington’s corridors of power. A study in character and values, courage, nobility, honesty, and selflessness, here is an unforgettable story about a man who embodies the best in our nation and in us all.

8. Carnage and Culture by Victor Hanson

Examining nine landmark battles from ancient to modern times – from Salamis, where outnumbered Greeks devastated the slave army of Xerxes, to Cortes’s conquest of Mexico to the Tet offensive – Victor Davis Hanson explains why the armies of the West have been the most lethal and effective of any fighting forces in the world. Looking beyond popular explanations such as geography or superior technology, Hanson argues that it is in fact Western culture and values – the tradition of dissent, the value placed on inventiveness and adaptation, the concept of citizenship – which have consistently produced superior arms and Soldiers. Offering riveting battle narratives and a balanced perspective that avoids simple triumphalism, “Carnage and Culture” demonstrates how armies cannot be separated from the cultures that produce them and explains why an army produced by a free culture will always have the advantage.

9. Dereliction of Duty by H.R. McMaster

“Dereliction of Duty” is a stunning new analysis of how and why the United States became involved in an all-out and disastrous war in Southeast Asia. Fully and convincingly researched, based on recently released transcripts and personal accounts of crucial meetings, confrontations, and decisions, it is the only book that fully re-creates what happened and why. It also pinpoints the policies and decisions that got the United States into the morass and reveals who made these decisions and the motives behind them, disproving the published theories of other historians and excuses of the participants.

10. The Afghanistan Papers by Craig Whitlock

Unlike the wars in Vietnam and Iraq, the US invasion of Afghanistan in 2001 had near-unanimous public support. At first, the goals were straightforward and clear: defeat al-Qaeda and prevent a repeat of 9/11. Yet soon after the United States and its allies removed the Taliban from power, the mission veered off course and US officials lost sight of their original objectives. Distracted by the war in Iraq, the US military become mired in an unwinnable guerrilla conflict in a country it did not understand. But no president wanted to admit failure, especially in a war that began as a just cause. Instead, the Bush, Obama, and Trump administrations sent more and more troops to Afghanistan and repeatedly said they were making progress, even though they knew there was no realistic prospect for an outright victory.

11. The Talent Code by Daniel Coyle

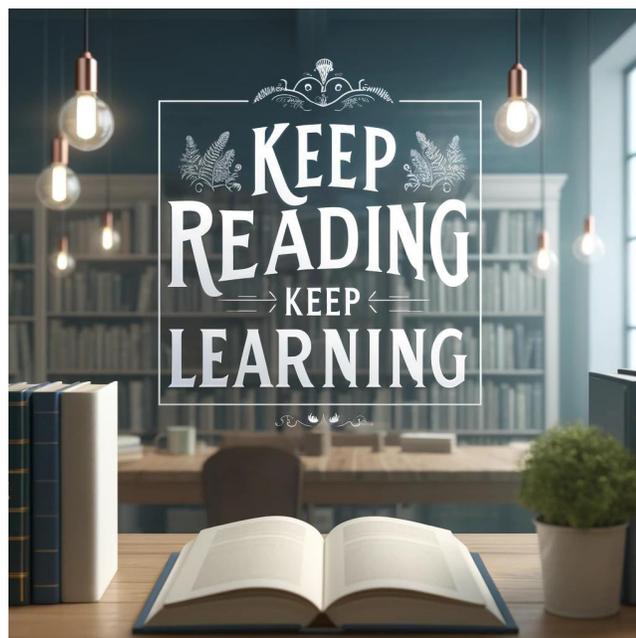
Whether you're coaching soccer or teaching a child to play the piano, writing a novel or trying to improve your golf swing, this revolutionary book shows you how to grow talent by tapping into a newly discovered brain mechanism. Drawing on cutting-edge neurology and firsthand research gathered on journeys to nine of the world's talent hotbeds – from the baseball fields of the Caribbean to a classical-music academy in upstate New York – Coyle identifies the three key elements that will allow you to develop your gifts and optimize your performance in sports, art, music, math, or just about anything.

12. General Fox Connor by Steven Rabalais

During World War I, Gen. Conner served as chief of operations for the American Expeditionary Force in Europe. Gen. Pershing told Conner: "I could have spared any other man in the A.E.F. better than you." In the early 1920s, Conner transformed his protégé Dwight D. Eisenhower from a struggling young officer on the verge of a court martial into one of the American army's rising stars. Eisenhower acknowledged Fox Conner as "the one more or less invisible figure to whom I owe an incalculable debt." This book presents the first complete biography of this significant, but now forgotten, figure in American military history.

14. On Strategy: A Critical Analysis of the Vietnam War by Harry G. Summers

This book is one of the most well-respected investigations of the strategic and tactical policies of the U.S. Army during the 20th century. Crackling with keen insight and clarity, this invaluable resource has renewed the study of strategy and its vital relationship to the art of war. Drawing heavily on the brilliant theories of the great Prussian general Carl von Clausewitz, this is the definitive politico-military assessment of the Vietnam War. Instead of merely examining the individual strategic flaws of the conflict, the book embraces a larger scope: how the weak relationship between military strategy and national policy led to the Vietnam War's unpopular and faulty definition – and eventual failure. Particularly relevant today, this important exposé stresses the futility of any military action without the full support and involvement of the country's people.



Faculty Spotlight

CW3 Suzy Albert, U.S. Army Warrant Officer Career College, MDARNG

CW3 Suzy Albert is a Human Intelligence Collection Technician (351M). She is an instructor in the Department of Strategy and Doctrine at USAWOCC. Before this position, she spent a year as a TAC Officer in the WOCS Regional Training Institute (RTI) program in Maryland and a year at 1ST Warrant Officer Company as a Warrant Officer Candidate School Resident Course TAC Officer and Operations Officer.



Ms Albert has an undeniable professional passion for teaching and doctrine. She spent a decade as a coach in Michigan, specializing in biomechanics, mobility, and mitigation of deceleration injuries. She also taught programs and classes on Human Performance and Health Promotion at Eastern Michigan University, where she earned her Bachelor's and Master's degrees. She was an instructor for a MOS-specific advanced school in Ft Huachuca, Arizona. She continued with this branch expertise as an expert trainer supporting intelligence agencies near Washington, DC.

Ms Albert has a less palatable third and fourth passion: crafting and cooking. She actively supports the social events at USAWOCC. She is seasonally the most avoided Warrant Officer on campus due to her proclivity to ask cadres to make Christmas ornaments, sign cards, decorate their offices, or otherwise engage in festivities. She has a well-known affinity for glitter, which has left her permanent mark across the USAWOCC footprint. She is most proud to be the undefeated USAWOCC Chili Cookoff Champion. She attributes her success in this arena to her family's mix of Creole and Midwestern roots and her inability to follow recipes, maximizing her innovation.

Beyond her work as an Instructor, Ms Albert is also the only current Warrant Officer involved in the Harding Project, a Chief of Staff of the Army-driven initiative to increase and improve professional writing across our Army. She is the Warrant Officer Historical Foundation's 2023/2024 Fellow and the Season 3 host of the government-educational podcast COHORT W. She is a member of VFW Post 6683 and the Above the Best Silver Chapter, US Army Warrant Officer Association.

Her career mentors include CW2(R) Scott Federspiel, CW4(R) Heather Petry, CW5 Leonard Momeny, CW5 Russell Houser, and LTC(R) Jon Young, whom she strives to think and teach like every day. She is engaged to CW2 Max Cosper, whom she regards as the single most brilliant and capable Warrant Officer she has ever met.

Announcements and Administrative Notes

Call for Papers

Strength in Knowledge: The Warrant Officer Journal is maintained by the faculty and staff working at the United States Army Warrant Officer Career College (USAWOCC). The editorial staff produces the quarterly publication in effort to improve all areas of the Warrant Officer's education, whether common core or technical in nature. This resource is intended inform and shape organizational systems in the greater profession of arms through the sharing of key insights and lessons learned.

We continuously accept manuscripts for subsequent editions with editorial board evaluations held once a quarter. The journal invites practitioners, researchers, academics, PME students, and military professionals to submit manuscripts that address the issues and challenges of military education and training, training development, doctrine (whether specific data from manuals or discussion of concepts), systems warfare, Army modernization and other subjects relevant to the profession of arms. Submissions related to technical areas of various Warrant Officers' specialties will be considered on a case-by-case basis. Book reviews of published relevant works are also encouraged.

Submission Guidelines

Submissions should be between 1,500 and 5,000 words and supported by research, evident through the citation of sources. Scholarship must conform to commonly accepted research standards such as described in *The Publication Manual of the American Psychological Association*, 7th edition. For resources on writing in approved APA format simply reach out to USAWOCC. Book reviews should be between 500 to 800 words and provide a concise evaluation of the book and its relevance to the professional Warrant Officer or current fight.

Submitted manuscripts in Microsoft Word, or compatible format, with separate picture files and a 100-150 word author's note by 15 November (Jan – Mar Publication), 15 February (Apr – June Publication), 15 May (July – Sep Publication), or 15 August (Oct–Dec Publication). For additional information, an email to **wo_journal@army.mil**.

Strength in Knowledge!

