Transforming Marine Corps Operations in the Information Environment Training

Gaining and maintaining an operational advantage

by LtCol James McGrath, LTC Tim J. Pike, USA(Ret),
CDR Christopher Pieczynski, USN(Ret) & Capt Michael Runyon

>LtCol McGrath is a Cyberspace Operations Officer currently serving as the Operations Officer for III Marine Expeditionary Force Information Group.

>>LTC Pike is a former U.S. Army Information Operations Officer and is currently the Lead IO Curriculum Developer and a Senior Instructor at Expeditionary Warfare Training Group, Atlantic.

>>>CDR Pieczynski is a former U.S. Navy Surface Warfare Officer and is currently an IO Curriculum Developer and Instructor at Expeditionary Warfare Training Group, Atlantic.

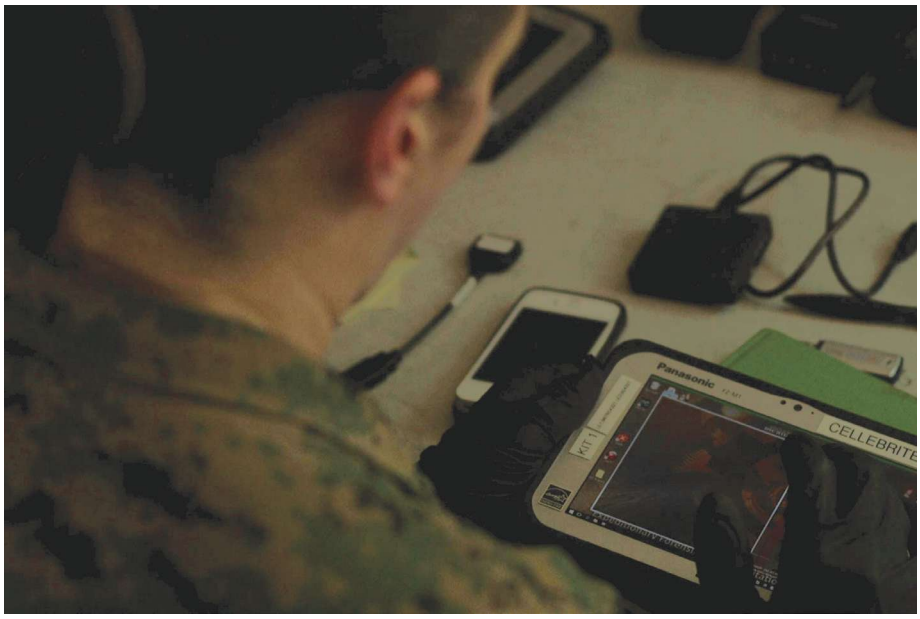
>>>>Capt Runyon is a Counterintelligence/Human Source Intelligence Officer currently serving as an Intelligence Officer aboard Naval Station Guantanamo Bay.

More than ever the Marine Corps is faced with the challenge to "secure or protect national policy objectives by military force when peaceful means alone cannot."[1] The rapid proliferation of information technologies has made this more difficult. The Fleet Marine Forces (FMF) have already begun to implement structure changes to support this, but current operations in the information environment (OIE) training must be revised in order to train the next generation of creative, adaptive, and disruptive OIE leaders with the knowledge and skills to intuitively fight and win in today's complex, information-dependent operating environment. Expeditionary Warfare Training Group, Atlantic is already postured to provide this training once changes are made to current MOS models and training and readiness functional areas.

Military Problem

The rapidly changing operating environment faced by today's Marine Corps consists of a landscape where our adversaries have access to precision weapons; advanced intelligence, surveillance, and reconnaissance capabilities; stealth technologies; and sophisticated command and control (C2) capabilities.[2] Even more alarming is that these adversaries are demonstrating advanced forms of information warfare that can threaten the assured C2 of our forces, deceive our commanders and intelligence systems, and ultimately psychologically undermine the morale of our Marines and attack the will of our allies and coalition partners.[3] The overall objective of Marine OIE is not just to meet the enemy on the 21st century battlefield but to develop and operationalize a capability to gain and maintain operational advantage over the adversary on that battlefield or simply put, to man, train, and equip our Marines to achieve that advantage. To achieve this ambitious goal, a foundation of individual knowledge, skills, and abilities must be instilled into a cadre of OIE officers and enlisted men and women who can readily understand and maneuver within today's dynamic and highly contested information environment.[4]

In order to effectively control OIE capabilities, resources, and activities, the Marine Corps must cultivate an advanced cadre of individuals who are skilled in the integration, synchronization, and coordination of all functions of the OIE and their supporting capabilities, which is currently achieved by OIE officers and enlisted specialists. Currently, the Marine Corps has two resident courses at Expeditionary Warfare Training Group, Atlantic to train OIE practitioners:



The Marine Corps must develop a cadre of Marines who are readily able to operate within the information environment. *(Photo by Sgt Luisa Torres.)*

- Two-week Intermediate MAGTF Information Operations (IO) Practitioner's Course (IMIOPC), leading to the Basic IO Staff Officer, 0510, and the IO Specialist, 0551, MOSs
- Three-week Advanced MAGTF IO Planner Course (AMIOPC), leading to the Advanced IO Planner, 0550, MOS. It should also be noted that IMIOPC is one of two requirements for achieving the Psychological Operations (PSYOP) MOSs, PSYOP Officer, 0520, and PSYOP NCO, 0521.

This current training construct used by the Marine Corps was well designed to meet the needs of the fleet as the Marine Corps first began to develop its ability to fight in the modern information environment. However, as our understanding of the information environment continues to develop and mature, our ideas and methods for training OIE Marines must also evolve so that the next generation of Marines can effectively advise, plan, execute, and assess OIE across the full range of information functions and capabilities.

At present time, the Marine Corps' OIE training continuum effectively develops information planners designed to integrate information capabilities into the Marine Corps Planning Process and is focused almost exclusively at the tactical level. However, as the past 19 years of conflict in Iraq and Afghanistan has revealed, creating tactical planners is not enough for the Marine Corps to dominate the 21st century information space. Simply put, there are other critical skills required to gain and maintain an advantage that are not currently taught within the IMIOPC and AMIOPC curricula. These critical skills are gaps in our current training model. Correcting these gaps will provide Marine OIE planners with the additional knowledge, skills, and abilities to effectively advise the commander regarding all information environment activities, manage execution, and implement a well-integrated assessment plan at both the tactical and operational levels of war.

> ***... creating tactical planners is not enough for the Marine Corps to dominate the 21st century information space.***

Also, in order to discuss improvements to the OIE training continuum, we must first understand our own obstacles in the development of a core group of well-trained, experienced OIE practitioners available to the FMF. The most glaring obstacle is the current Marine Corps OIE planner MOS model. The current model draws practitioners from the Marine Corps without any consideration of a Marine's prior knowledge and experience with OIE. For instance, a Marine may serve one tour in an OIE billet and then never work in this critical field again. Or worse, because the OIE MOSs are free MOSs (FMOS), a Marine may serve in multiple OIE billets and ultimately hurt their chances for promotion because they have spent too much time out of their primary MOS (PMOS) and no longer have the requisite experience within their PMOS for favorable consideration. Recognizing these challenges and the fact that the Marine Corps will not have a permanent, professionalized cadre of PMOS trained OIE practitioners[5] in the foreseeable future, only heightens the importance of ensuring that both IMIOPC and AMIOPC are well designed, implemented, and executed.

OIE Training Solution

Keeping these challenges in mind, there is a need to expand OIE training beyond the previous single training and readiness (T&R) manual planning function into three additional functional areas. The full complement of required T&R manual functions includes advising, planning, execution, and the assessment of information plans and activities. Expansion beyond planning allows the OIE students to leave the training environment with the knowledge of "how to" do their job throughout the entire spectrum of operations and the seven broader functions of OIE. The remainder of this innovation initiative focuses on fully outlining these four T&R functional areas and providing recommendations for the way forward.

The first OIE T&R manual functional area is advising. Advising is done continually throughout all types and phases of operations and is critical to the command in all phases of planning, execution, and assessment as the commander works through operational design, provides planning guidance, commander's intent, and continues to

make decisions. As the leader of the integration, coordination, and synchronization of all information capabilities, the senior OIE officer, FMOS 0550 or 0510, is the single best person to advise not only the commander but the rest of the staff on the effects of information capabilities in the information environment and how those effects can best lead to an operational advantage. Some areas the OIE practitioner should be able to advise the commander on are current technologies and tactics associated with the command's array of organic and nonorganic information capabilities; the seven functions of information; the six OIE capability areas; adversary and allied information warfare doctrine; information capability policy, law, and associated authorities, specifically military deception (MILDEC), PSYOP, electronic warfare, cyber, operations security (OPSEC), space operations, and special technical operations; emerging trends, such as the convergence of space, cyber, and electromagnetic spectrum domains; hybrid and nonlinear warfare; near peer and pacing threats; and the latest techniques for naval and joint OIE integration.

The second T&R manual functional area, which Marine Corps OIE already does fairly well, is planning. Planning has historically been the focus of OIE training and is currently the strength of OIE training both in the Marine Corps and in the joint community. Improvements that can be made in this area are increased information environment analysis by introducing topics such as social network analysis, narrative development, and the application of behavior and communication theories, both technical and cross-cultural. The expansion of the planning function in the advanced course should include operational design with a systems-thinking approach and an introduction to the joint operations planning process. Lastly, the joint MILDEC and OPSEC planning processes coupled with signature management (SIGMAN) should be enhanced for both IMIOPC and AMIOPC.[6] Currently, there is no Marine Corps MOS or MAGTF-specific training associated with MILDEC, OPSEC, or SIGMAN outside of IMIOPC and AMIOPC. Currently, AMIOPC provides the identical MILDEC and OPSEC training that is mandated by the Joint Staff J-39 and delivered by the Joint Forces Staff College—except that AMIOPC is taught using a MAGTF-specific training scenario. Also of special note, the OPSEC planning process is taught from the operational perspective that integrates OPSEC into the operational plan to aid the commander achieve tactical and operational objectives—not the "Halls and Walls" OPSEC program managers course, which has its place but does not necessarily teach planners what they need to know to plan, execute, and assess OPSEC and SIGMAN on the battlefield.

Adjustments have to be made once execution begins to ensure operational success. *(Photo by Cpl Cutler Brice.)*

The third newly proposed T&R manual functional area is execution. Execution is all about what happens when the plan passes from future operations to current operations and the actions an OIE practitioner must do to ensure that the measures of performance are being executed in accordance with (IAW) the synchronization matrix. It also entails how adjustments are made to ensure operational success after the adversary begins to execute their plan and simultaneously adapt to ours. Currently, transitioning plans from future operations to current operations is knowledge acquired on-the-job by someone who has recently been trained as an OIE planner, but with little experience with its actual execution. This knowledge deficit creates a massive learning curve for the practitioner, especially because it is difficult to practice OIE execution in a garrison environment without a robust synthetic training environment. An OIE practitioner at all levels should learn about information as it relates to current operations, development of battle drills, participating in the targeting process, and execution of the synchronization matrix. At the intermediate level, an OIE student should learn about authorities and permissions and how to go about putting them in place. At the advanced level, students should get an in-depth study of the deliberate and dynamic land component and joint targeting processes, how they work, and methods for OIE integration.

The fourth newly proposed T&R manual functional area, assessment of OIE plans and activities, is arguably the most important and most neglected function for an OIE practitioner. The assessment of plans and activities is an extremely challenging task since the information environment is influenced by many different factors, which lead to an extremely subjective process. Oftentimes in the past, the difficulties developing meaningful measures

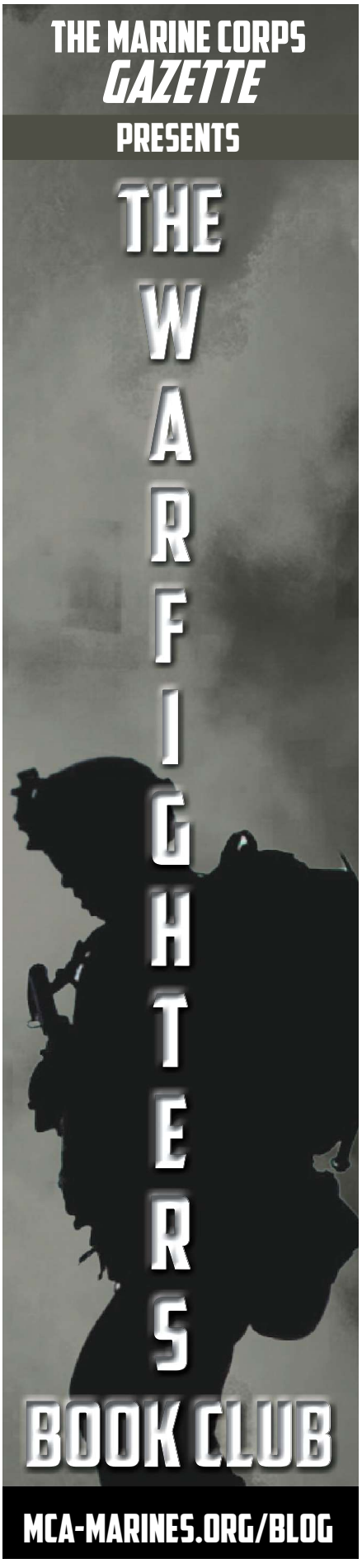
of effectiveness have resulted in a loss of confidence by commanders in their OIE efforts. Also it is possible that many scarce resources have been squandered without any real evidence demonstrating that planned information environment actions have actually created the desired effect. At the intermediate level, students should learn the joint IOs assessment framework and the intermediate target assessment process. At the advanced level, Marines should dive deep into the behavior sciences and measures of progress in a conflict environment as an approach to targeting assessment. Systems analysis and operations research techniques should also be taught so that OIE practitioners can develop operational assessment frameworks for their information concepts of support, implement scientific methods and instruments to survey the information environment, and ultimately provide the skills to analyze data and other assessment activity results. Finally, students should be exposed to national, joint, and Marine Corps intelligence systems for familiarity with intelligence, surveillance, and reconnaissance planning and asset utilization as well as other joint tools available for assessment purposes.

Recommendations

Ultimately, it is the responsibility of the FMF to understand the information environment and effectively employ their OIE practitioners and information forces to achieve operational advantages over our current and future adversaries. However, even more importantly, at a time when our adversaries are rapidly expanding their abilities to dominate the information environment, it is incumbent upon the Marine Corps to do the same and thoroughly prepare its Marines who are assigned to critical OIE and information capabilitiy billets throughout the FMF. As a result, the Marine Corps should take the following actions with regard to preparing its Marines to fight and win in the information environment:

- Expand IMIOPC (corporal to lieutenant colonel, MOS 0510 and MOS 0551) and AMIOPC (1st lieutenant to major, MOS 0550) IAW the recommendations outlined above, including instruction on the latest OIE concepts, functions, and capabilities as well as current and projected information warfare threats.
- Expand IMIOPC (gunnery sergeant to major) to at least a four-week program of instruction (POI) IAW a detailed learning analysis resulting from the T&R manual tasks outlined above.
- Create a Basic MAGTF IO Practitioner Course (BMIOPC, corporal to gunnery sergeant) POI for enlisted IO specialists to train to unique 0551 T&R manual conditions and standards.
- Incorporate advanced wargaming with well-trained adversary red cells and information environment modeling and simulation analysis techniques in the BMIOPC, IMIOPC, and AMIOPC POIs.
- Make AMIOPC a top secret/special compartmental information-level course. Incorporate alternate compensatory control measure read-ins, combatant command operations plan reviews, as well as common access billet read-in for special technical operations planning for AMIOPC students. Incorporate and fund field trips and studies of key Marine Corps OIE commands, agencies, centers, and groups as well as other service and national-level IO, space, cyber, and intelligence capabilities.
- Integrate C2 of information environment and information environment battlespace awareness capabilities and technologies immediately into BMIOPC, IMIOPC, and AMIOPC as they are fielded as well as emerging MEF information group combat operations center processes and procedures.
- Ensure all Marines filling OIE FMOS billets receive BMIOPC, IMIOPC, or AMIOPC training in route to their assignments.
- Consider removing the OIE FMOSs from the 05XX MAGTF Plans series since OIE and information warfighting functions are far more than planning functions.
- Explore options to retain critical OIE officer knowledge, skills, and experience through creating a PMOS or alternate reutilization assignment strategies.
  - Create an OIE PMOS for information capability MOSs (Cyberspace Operations, Space Operations, electronic warfare, PSYOP, and Civil Affairs) after the rank of captain/sergeant, similar to the 02XX model that funnels officers into the 0202 MOS.
  - Use a secondary MOS model where officers and enlisted Marines alternate tours between their primary OIE/Information Capability

We must be able to achieve an operational advantage over our enemy. *(Photo by Cpl Malik Daniel.)*



MOS and IO FMOS (0510, 0550, and 0551) after the rank of captain/sergeant. This concept also includes the Special Education Program Technical IO Officer MOS 8834 as well.

- Consider expanding upon the model outlined in this initiative and create an OIE Weapons Tactics Instructor (WTI) model similar to the Marine Aviation Weapons and Tactics Squadron-1 (MAWTS-1), Marine Corps Tactical and Operations Group, and Marine Corps Logistics and Operations Group paradigm for post 0550, Advanced IO Officers. This would also align with the naval Information Warfare Development Command's current initiative to create Navy information warfare tactics instructors. We recommend the Marine Corps IOs Center be the location of Marine OIE WTI training but closely integrated with MAWTS-1, Marine Corps Tactical and Operations Group, and Marine Corps Logistics and Operations Group.
- Enter into a formal agreement between Navy Information Forces, naval information warfare development command's and the Deputy Commandant for Information to integrate Navy information warfare and Marine OIE WTI training across the naval Services in support of the *Commandant's Planning Guidance*, *Littoral Operations in a Contested Environment*, *Expeditionary Advanced Base Operations,* and *Distributed Maritime Operations*.

Conclusion

At this time, because of the ongoing force design process, it is uncertain exactly how the Marine Corps will transform its OIE force. Nevertheless, the need for a dedicated and experienced cadre of OIE practitioners will continue to grow as our adversaries continue to refine their use of the information environment. At a time when our adversaries are rapidly expanding their abilities to collect, process, and disseminate information within the information environment, with the aim of influencing and imposing their will on their adversaries, it is critical that the Marine Corps do the same. While it is the responsibility of the FMF to employ OIE practitioners effectively, the training establishment must ensure these information warriors have the knowledge and skills required to successfully fight and win throughout this highly contested domain. Lastly, in order to ensure that the Marine Corps stays ahead of our adversaries, Expeditionary Warfare Training Group, Atlantic, partnered with Deputy Commandant for Information, is already focused on implementing the necessary and crucial changes to enable our OIE professionals to dominate this increasingly important domain throughout the entire cooperation, competition, and crisis continuum.

Notes

1. Headquarters Marine Corps, *MCDP 1 Warfighting*, (Washington, DC: 1997).

2. James R. Clapper, *Opening Statement to the Worldwide Threat Assessment Hearing, Senate Armed Services Committee*, (Washington, DC: February 2016), available at www.dni.gov.

3. Larry M. Wortzel, *The Chinese People's Liberation Army and Information Warfare,* (Carlisle, PA: Strategic Studies Institute, March 2014), available at www.strategicstudiesinstitute.army.mil. This study examines China's efforts in implementing information warfare with advanced technologies while expanding the air defense intercept zone.

4. Jolanta Darczewkska, *The Anatomy of Russian Information Warfare,* (Warsaw: Centre for Eastern Studies, May 2014), available at www.osw.waw.pl. This paper examines the changing techniques of Russian information warfare, in respect to the recent Crimean operation.

5. Currently, U.S. Army, Navy, and Air Force personnel serving in the IO field remain in that field throughout their careers. Refer to *DA-PAM 600-3, NEOCS Manual* Volume 2, and AFECD, respectively.

6. Headquarters Marine Corps, *MCRP 3-32.2, Multiservice Tactics, Techniques, and Procedures for Military Deception (MILDEC) Operations,* (Washington, DC: 2012); and Joint Staff, *JP 3-13.3, Operations Security,* (Washington, DC: 2012). These are the primary military deception and operational security publications upon which the new curriculum should be built.