

# Make It Stick

## Institutionalizing wargaming at EDCOM

by Maj Ian T. Brown & Capt Benjamin M. Herbold

In 2019, Gen David H. Berger's *Commandant's Planning Guidance (CPG)* threw down the gauntlet on using wargaming to "fill the greatest deficiency in the training and education of our leaders: practice in decision-making against a thinking enemy."<sup>1</sup> Anything the Commandant calls "the greatest deficiency" deserves immediate and aggressive correction, and so the entities of Training and Education Command looked at how to execute this unambiguous marching order. Training and Education Command naturally had the task of assessing the enterprise and finding ways to turn the newly framed "CPG Task 3.1.20 Institutionalize Wargames" into reality. Concurrently, Education Command (EDCOM) at Marine Corps University (MCU) gathered individuals from the resident schools, the Brute Krulak Center for Innovation and Future Warfare, and the Operations, Business Affairs, and Academic Affairs offices into a working group to develop a "Wargaming Master Plan" to guide MCU's efforts over the next five years to integrate wargaming as an educational tool across professional military education (PME) curricula.

There is plenty of churn behind the word "wargaming" in the agencies of training and education. Yet, long-time observers of the Marine Corps know that this is not the institution's first rodeo in the wargaming world and might fairly wonder: is this more heat than light? There is a trail of *Marine Corps Gazette* articles going back decades that highlight the value of wargames as inexpensive, yet invaluable, tools for filling that same decision-making deficiency, but the Corps never integrated them into training or education.<sup>2</sup> In the early 1980s, it looked like the Corps might have turned the corner—at least in the training realm—with the development

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of the "TACWAR" game system, with a grand vision of giving TACWAR to every rifle company in the FMF.<sup>3</sup> Yet only a decade later, TACWAR suffered the usual fate of one-size-fits-all systems:

neglected at all levels ... stacked like cordwood in warehouses ... bogged down in its own procedures ... so muddled with administrative minutiae that players soon become bored and their initial enthusiasm is lost.<sup>4</sup>

When Gen Charles Krulak became Commandant in 1995, he tried to swing the pendulum back the other way by exploiting the proliferation of personal computers to help simplify and automate the adjudication of that "minutiae" in wargames. He signed *Marine Corps Order (MCO) 1500.55: Military Thinking and Decision Making Exercises*, authorizing the use of government computers for playing approved software wargames and mandating that Marines participate in decision-making exercises "daily."<sup>5</sup> Gen Krulak's tenure saw the development of an add-on to the popular first-person shooter computer game "Doom," done in-house by a single energetic sergeant. "Marine Doom" was the manifestation of Krulak's own CPG directive to make "our education and training processes and institutions technologically innovative, challenging and fun ... [to] help us derive imaginative solutions to the challenges we face."<sup>6</sup>

Interestingly, *MCO 1500.55* is still a "current" order—yet there are likely few Marines today who could look at themselves in the mirror and say they engage in challenging decision-making activities "daily" with their own Marines; and heaven help the Marine who tries to install a commercial wargame on their government computer.<sup>7</sup>

The Marine Corps' historical relationship with wargaming as a tool for training and education begs the question: how will this time be any different? As we approach the two-year anniversary of Gen Berger issuing his CPG, there is still a long road ahead for the institutionalization of wargaming across the entire Corps, but we would like to offer the model pursued at EDCOM in developing and executing its Wargaming Master Plan as a possible way forward. This model, driven by the aggressive mandate laid down in the CPG and building off of decades of painful failure and tepid success, fuses the things that worked in preceding years with the freedom to abandon the things that failed. It recognizes that answering the question of "how *do* we institutionalize X?" requires the use of an *institution* upon which to ground the effort. This gives the project resources, manpower, and the backstop of authority to direct the work and make it take root. Ideally, whichever institution pro-

vides that foundation also contains a mechanism that maximizes prospects for the project to grow and spread its impact beyond its own walls to the wider target audience. EDCOM is a logical foundational institution for this task, as its schools provide recurring touchpoints with fleet Marine officers and enlisted leaders. These Marines get exposed to the possibilities and applications of wargaming in their curricula, and then return to the FMF where they can then help drive the institutionalization beyond the confines of the foundational organization.

EDCOM's model also abandons the "one game to rule them all" mentality and embraces what should be three uncontroversial themes: different levels of PME require different games to support their learning objectives; wargame content and execution does not need to be hopelessly complex to be "useful"; and that, as in the case of "Marine Doom," the greatest promise comes from leveraging talent already extant in the Marine Corps. This article will provide three specific case studies of how EDCOM has woven these concepts together in executing its Master Plan and provide some grist for the mental mills of other entities and commands seeking to tackle that "greatest deficiency" in their own ways.

### **Achieving Critical Mass: Wargaming at the College of Enlisted Military Education**

By sheer weight of numbers, the best way to rectify the deficiency identified by Gen Berger would be plugging wargaming into enlisted training and education. Enlisted Marines make up the vast majority of the Corps' manpower structure; thus, using wargaming as a tool in enlisted PME would, simply by quantity, provide a quality impact all of its own. Yet paradoxically, the opportunity in enlisted PME for achieving a decisive effect with wargaming also faces the greatest challenge, as enlisted courses are structured differently than officer PME, particularly in the number of classroom hours available to students. Officer PME is measured in months, and enlisted PME in weeks, leaving little wiggle room for adding

new requirements like wargames, especially those that take place across several days or even weeks. Despite the obvious potential gain, execution would be a difficult needle to thread.

GySgt Dathan Byrd was willing to thread that needle.<sup>8</sup> A curriculum developer and adjunct faculty at the College of Enlisted Military Education (CEME), he had begun his tenure there by revitalizing the Small Unit Leadership Evaluation (SULE) module taught at the Sergeant's Course and taking the new SULE on the road to oversee implementation at the many enlisted academies spread across the FMF. As part of the effort to revamp the SULE, GySgt Byrd realized that enlisted courses as a whole needed a fresh look at how they pursued their learning objectives.

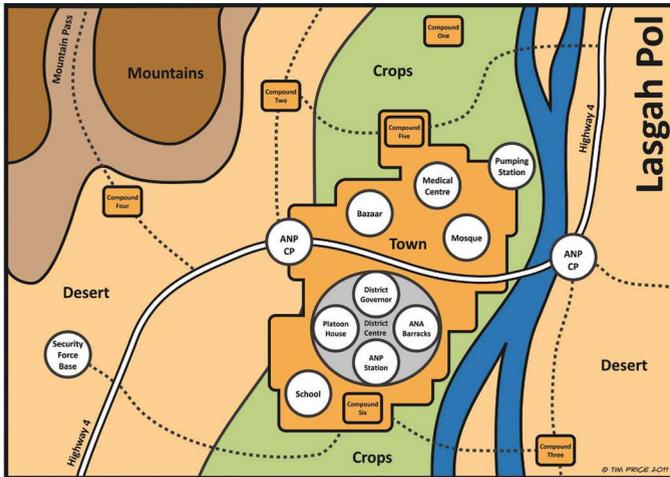
The problem was multifaceted. *MCDP 1*, *Warfighting*, and the philosophy of conflict therein was the core of each enlisted program.<sup>9</sup> However, "warfighting" was often conflated with "warfighting functions," standardized in five-paragraph orders and exercises in the Marine Corps Planning Process (MCP). Moreover, there was little opportunity for practicing the essence of *Warfighting*, which was confronting a thinking human adversary and putting them in the horns of a dilemma with which they could not cope. To act as effective advisors to their commanders and other decision makers, enlisted Marines needed to speak the same doctrinal language as those officers who were immersed in *MCDP 1* and other doctrinal concepts from the very beginning of their careers.

Beyond that, enlisted leaders also had to be effective decision makers in their own right, able to intuitively and rapidly translate their broad base of experience into action under pressure and against human opponents who were doing their best to counter those actions. Yet, there were few opportunities to actually develop and practice this decision-making habit pattern in existing CEME courses. Students got exposure to tactical decision games (TDGs), which was good but incomplete, as a TDG's white board did not "fight back" or offer open-ended decision-making paths. Dynamic problems and adaptive adversaries filled

the worlds of deployment and combat; Marines needed to enter those worlds with decision-making habits practiced and honed in the educational courses intended to prepare them for those challenges.

Looming over these considerations was the issue of time: time to practice decision-making and doctrinal application within the course, maximizing the "reps and sets" executed in a short window of time and not burdening the individual CEME courses with additional class time that simply was not available. TDGs offered an advantage here because they were not time-intensive, but again neither were they robust enough to meet all the required learning objectives. GySgt Byrd started looking through the historical PME approaches taken by other militaries in providing their enlisted leaders opportunities for doctrinal mastery and decision making. He found one idea repeated again and again in these old documents, whether written by German, French, Israeli, or other militaries: wargaming. Focusing his attention on this theme, further research showed GySgt Byrd that many past Marine Corps leaders like Generals Al Gray, Charles Krulak, and Paul Van Riper had all spoken of wargaming's value as an educational tool, though institutionalizing it had proved an enduring challenge. No matter, the historical evidence supporting wargaming's utility seemed clear, and when it was released in the summer of 2019, Gen Berger's *CPG* laid out an obvious expectation for wargaming execution. GySgt Byrd drafted and received approval for a plan that, starting with the Career School, would use wargames to teach doctrine and decision making without adding a new burden to the course's short seven-week curriculum.

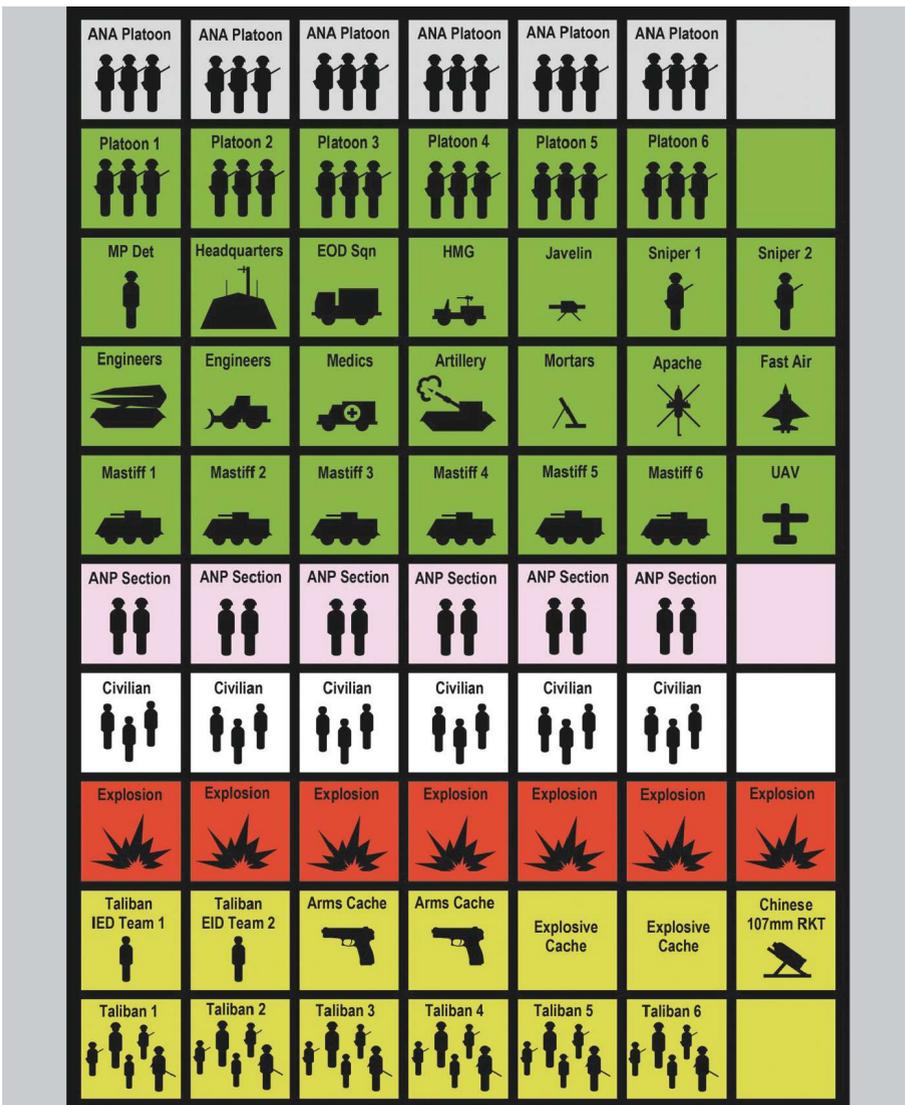
The question now turned to what type of wargame could support the Career Course's learning objectives within the time constraints. Additional research led GySgt Byrd to a "matrix" wargame as the ideal solution. Like other types of wargames, matrix wargames included a synthetic environment—a map, tabletop game board, or some other playing space—and units or assets that players used to execute their



"Lasgah Pol" game board. (Curry and Price, History of Wargaming Project website).

<b>Security Force Commander:</b> <ul style="list-style-type: none"> <li>- Improve Security.</li> <li>- Maintain Local National Primacy and avoid undermining the local forces.</li> <li>- Avoid Casualties.</li> </ul>		<b>Afghan National Police Chief:</b> <ul style="list-style-type: none"> <li>- Insist that you are the Law - not the ANA.</li> <li>- Supplement your meagre wages from an ungrateful Government.</li> <li>- Do anything for a quiet life and avoid getting killed.</li> </ul>	
<b>Taliban Commander:</b> <ul style="list-style-type: none"> <li>- Kill the Infidel!</li> <li>- Discredit local Government.</li> <li>- Ensure the Taliban are recognised as a force for alternative Government.</li> </ul>		<b>Afghan National Army Commander:</b> <ul style="list-style-type: none"> <li>- Be seen as heroic defenders of peace and prosperity.</li> <li>- Get as much as you can out of NATO (training, equipment, etc).</li> <li>- Improve security.</li> </ul>	
<b>District Governor:</b> <ul style="list-style-type: none"> <li>- Maintain your position at all costs.</li> <li>- Improve Prosperity.</li> <li>- Improve Security.</li> </ul>		<b>Tribal Elder:</b> <ul style="list-style-type: none"> <li>- Remove Western Influence.</li> <li>- Sell poppies (It is the only way to maintain income).</li> <li>- Discredit the Governor.</li> </ul>	

"Lasgah Pol" player factions. (Curry and Price, History of Wargaming Project website.)



"Lasgah Pol" game pieces. (Curry and Price, History of Wargaming Project website; adapted for U.S. TO&E by GySgt Dathan Byrd.)

decisions. However, matrix games also had less rigid rulesets, which made them easier for facilitators to teach and students to learn and required less time to adjudicate the results of player decisions. Through the "Connections" civilian-run wargaming community, Byrd found a matrix game that, with some adaptation, suited CEME's needs. John Curry and Tim Price from the "Connections" United Kingdom branch had created a matrix game focused on the fictional Afghan village of Lasgah Pol.<sup>10</sup> The game supported up to six players, each one representing a different faction seeking to influence the civilian population in order to achieve their own objectives. With Curry's and Price's permission, GySgt Byrd adapted some of the materials to American tables of organization and equipment and then put it in front of his students.

Both students and faculty rapidly gravitated to the game. Here, in a synthetic environment that could be set up or torn down in a matter of minutes and not requiring expensive hardware or an army of facilitators, enlisted leaders could do a practical application of the things they were supposed to execute operationally from *MCDP 1, Warfighting*. Here, students could hone those things expected from a commander's enlisted advisor: intuitive thinking developed from long experience, combined with the doctrinal grounding allowing one to speak the same language as officer planners and commanders,



**Career Course students playing “Lasgah Pol.” (Photo courtesy of GySgt Dathan Byrd.)**

all merging so students could rapidly assess a situation, contextualize it, decide, and act—always in the face of an adversary who was trying to stop them from acting. Here, students could decide, see the consequences of their decisions in realtime, make mistakes and learn from them without burning through ammunition and supplies or risking lives. Gathered around a simple laminated paper game board, looking into the eyes of their peers to figure out what they were thinking and how their plan could be defeated, students of the Career Course could fix that decision-making deficiency with continuous “reps and sets” against thinking human adversaries.

The successful implementation of the “Lasgah Pol” matrix game at the resident Career Course in Quantico was soon translated into implementation at the other resident Academies, with GySgt Byrd providing each Academy its own copies of the game, along with faculty development for game facilitators. CEME is also now developing a wargame for the Advanced Course, with a focus on maritime littoral operations. Institutionalizing wargaming across the Marine Corps makes its use vital in the schools that educate the bulk of uniformed population. CEME and GySgt Byrd have demonstrated how the

three themes of EDCOM’s approach to wargaming—targeting a game to unique school learning objectives, making the simple useful, and leveraging organic talent and expertise—will help make institutionalization stick.

### **Give Us More: Wargaming at Expeditionary Warfare School**

Expeditionary Warfare School (EWS) for company-grade officers necessarily has different program outcomes than the Career school, though there is some overlap. Both schools aim to cultivate critical thinking, ethical decision making, and a maneuver

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warfare mindset, but EWS also has the specific goals of “integrating all warfighting functions across a combined arms MAGTF in Naval and Joint operations,” and “demonstrating

proficiency in [the students’] respective MOSs.”<sup>11</sup> Different program, different outcomes, but the same requirements are levied by the CPG: use wargaming to fill deficiencies in decision-making opportunities against thinking adversaries. The challenge lay in finding a way to game the future maritime, all-domain environment that was rich enough to present the problem set while accessible enough that learning and playing the game did not become an all-consuming task in its own right.

A unique opportunity to meet this challenge presented itself in the early days of 2020 when Sebastian Bae, a Non-Resident Fellow at the Brute Krulak Center for Innovation and Future Warfare at MCU and himself a former Marine, approached the Center’s staff with a concept pitch. Bae instructed wargame design for a number of graduate programs, including the Gray Scholars Program at MCU. Was there any interest in leveraging him and his wargaming network in his capacity as Non-Resident Fellow to develop a Marine Corps-specific educational wargame? The ultimate audience for this game would be operational units across the FMF, but as a first step toward that goal, Bae’s team could introduce the game to a group of MCU students to achieve a PME school’s learning objectives while using student input to hone the game for fleet Marines. Following internal discussions with the MCU schools, the leadership at EWS found the proposal offered a chance to meet both formal learning and wargaming objectives and targeted the “Marine Air-Ground Task Force Operations Afloat” module in the spring of 2021 for the game’s execution.

Approval was just the first step; Bae and his team now had to craft a detailed game design philosophy for this unique project. The end state was a game that was accessible and flexible for unit-based educational wargaming, depicting a near-future joint, all-domain, maritime battlefield with an acceptable level of abstraction. The game would require little to no overhead to maintain, and everything needed to understand and play it would be in the box. The design team ensured the game’s low overhead



Early playtesting of *FMF: INDOPACOM*. (Photo by Maj Ian Brown.)

by capitalizing on the many materials and mechanics already available in commercial wargaming. These resources included using common materials like wooden blocks to create a “fog of war” for the players and design tools like “Component Studio” for capability cards.<sup>12</sup> The team also adapted commercial game rules and player mechanics, such as visual player aids and tuto-

side had a variety of ground combat, long-range fires, logistics, and naval units that players could task-organize to achieve their scenario objectives. Each side could also invest in Joint Capability Cards, which abstracted different strategic and higher-echelon fires, maneuver, interception of missiles and aircraft, information operations, and the command, control, communications,

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rial videos. Layered over all of this was current and relevant topical content to maximize the game’s educational value.

Everything from Gen Berger’s comments shortly following the release of his *CPG* in 2019 to the most recent presidential Interim National Security Strategic Guidance and Secretary of Defense “Message to the Force” have carried the same message: “prioritize China as the pacing threat.”<sup>13</sup> So Bae’s team developed scenarios on game maps depicting key terrain in and around the Indo-Pacific region, with the friendly Blue force modeled on the Marine Littoral Regiment (MLR) construct and the Chinese force based on the People’s Liberation Army Marine Corps.<sup>14</sup> Each

computers, cyber, intelligence, surveillance, and reconnaissance assets that a company-grade officer could reasonably expect to encounter and employ on a future joint all-domain battlefield.

The final—and perhaps most important—considerations in the game’s design combined two elements to ensure the game would indeed be “useful,” in the sense of maximizing opportunities for Marines to use it. The first element was keeping the ruleset simple and intelligible so that players could be reasonably expected to pick it up and play it without the aid of a facilitator. Bae included options for more advanced rules, as well as expansions for different geographic locations and scenarios

using the core ruleset, but a player could understand the core game mechanics and initial scenario with 30 minutes of study. The second element was a research plan that rigidly hewed to public domain, open-source reference material in developing the tables of organization and equipment, and joint capabilities for both sides. Merging these two elements with the design philosophy, the end result was a wargame with only a slight learning curve for execution; no requirement for specialized materials or equipment to maintain; and open to the widest possible audience of Marine, international military, and other potential players inside the PME continuum and across the FMF and joint force.

Now titled *FMF: INDOPACOM*, the wargame went through an aggressive regimen of playtesting in the months leading up to its introduction to the EWS student body. Bae’s team, Krulak Center staff, EWS faculty, and Georgetown University graduate students refined rules, gameplay mechanics, and unit capabilities; partners at the Marine Corps Intelligence Activity down the road from MCU worked with open-source maps and terrain assessment to ensure each scenario had realistic impacts to mobility and maneuver. Once refined, Bae’s group did the heavy lifting of reproducing sixteen full copies of the game so that every conference group at EWS would be able to play its own force-on-force session. By the spring of 2021, this wargaming conglomerate was ready to put *FMF: INDOPACOM* in front of EWS’ student body for the test that really mattered.

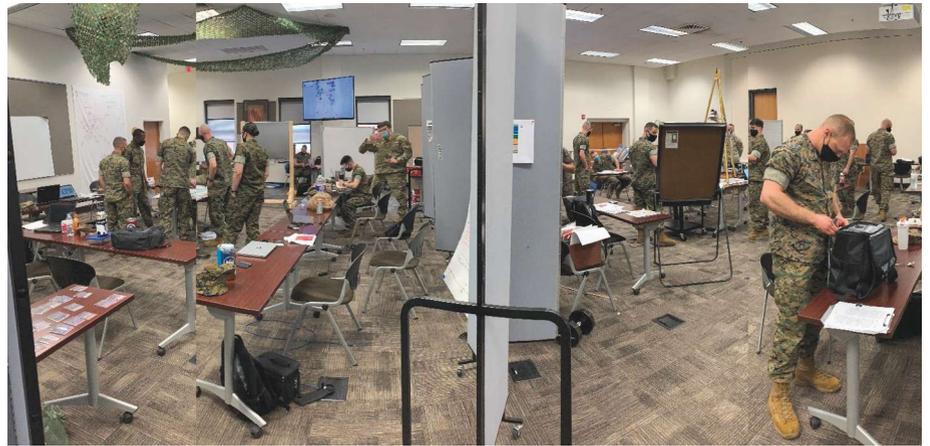
From March 15–16, almost two hundred Marine Corps, joint Service, and international military students at EWS dedicated their waking moments to out-planning, out-thinking, and out-fighting their classmates as either an MLR, supported by the joint force and allied partners; or the People’s Liberation Army Marine Corps, with more limited conventional forces but a broad array of asymmetric capabilities that could deceive, inveigle, or obfuscate the Blue force from achieving its objectives. No two games were the same—some matches were two-way long-range strike slugging matches, others involved ag-

gressive and risky maneuvers to break out of the limited mobility corridors available on the game map, and perhaps the most interesting featured teams who attempted to achieve their victory conditions through a combination of cyberattacks, information operations, and influencing local and global opinion, without the crisis ever breaking out into a shooting war. However the individual games played out, the point was that for two days, the entire student body of an MCU school was engaged in continuous decision making against responsive, adaptive, and creative thinking human adversaries in the form of their peers.

Student feedback on this two-day wargaming immersion could best be described as “more:” more chances to play *FMF: INDOPACOM* during the academic year; more copies of the game available to get better at it and better at out-thinking their fellow students; more opportunities in general for engaging in this type of dynamic, free-play, force-on-force decision-making activity that forced them to plan, continuously adapt their plan when their adversary did something unexpected, and learn in realtime how to allocate limited capabilities effectively against a well-equipped enemy who was constantly trying to neutralize them. The pick-up team of current and former Marines that worked together to make *FMF: INDOPACOM* a reality is looking at building on the lessons learned from the first EWS iteration to make future educational exercises even more impactful, as well as options—such as a digital version on Tabletop Simulator—to make the game more widely available beyond the confines of the classroom.<sup>15</sup> But whatever this specific game’s future, its design, testing, and execution at a PME school within a year testify to the power and potential of the three themes within the EDCOM model of institutionalizing wargaming.

### **Wargaming the Operational Art: Command and Staff College & the School of Advanced Warfighting**

As noted with CEME and EWS, different schools have different learning objectives and program outcomes. Different goals require different wargames,



**Simultaneous gameplay of *FMF: INDOPACOM* by EWS students. (Photo by Maj Ian Brown.)**

and MCU’s schools for field-grade officers are no exception. The Command and Staff College (CSC) and School of Advanced Warfighting (SAW) are designed to produce graduates who are capable of understanding complex situations, thinking critically, and applying the practice of operational art to situations spanning the spectrum of conflict.<sup>16</sup> While similarities exist in the curricula of the two, these courses differ in locus. CSC’s mission is to develop leaders with the knowledge required to serve as commanders and staff within the MAGTF and also with “service, joint, interagency, intergovernmental, and multinational organizations.”<sup>17</sup> By

wargames in conjunction with planning exercises in order to meet learning objectives and enhance student decision making. Executing their plans against a thinking adversary, students and faculty got cold, hard feedback on key planning questions: was your plan sound and flexible? Were your decision support tools developed with enough detail to support the execution of this plan as you moved to execution? Did you give your branch and sequel plans the attention that they deserved? In prior exercises, these questions would be answered by military faculty (MILFAC) and professors based on their own experience and knowledge. Using wargames in AY21, however, let

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***Throughout Academic Year 2021 (AY21), CSC and SAW conducted wargames in conjunction with planning exercises in order to meet learning objectives and enhance student decision making.***

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contrast, SAW’s mission focuses specifically on developing “lead planners and future commanders with the will and creative intellect to design and execute joint campaigns and naval expeditionary operations.”<sup>18</sup> Despite differences in mission, both schools utilize planning exercises at the operational level of war to teach and hone staff processes and decision making.

Throughout Academic Year 2021 (AY21), CSC and SAW conducted

students “explore in greater detail the rationale behind their assumptions and subsequent decisions.”<sup>19</sup> There, again, was that “greatest deficiency” identified in the *CPG*, and CSC and SAW would use wargames to correct it.

A key requirement for using wargames was maintaining the continuity of exercises that already exist within the schools’ curriculum. As virtually no commercially available wargames were built with field-grade PME curri-

cula in mind, meeting this requirement necessitated creating custom-tailored scenarios based on codified planning exercises. Once created, these scenarios could adapt to different courses of action and task organizations for students. For three of these events during AY21, CSC and SAW partnered with the Krulak Center—specifically, the Center’s Technical Information officer, Capt Benjamin Herbold—to make this a reality.

The design teams, consisting of Capt Herbold and the MILFACs of CSC and SAW, created custom scenarios within the wargame *The Operational Art of War IV (TOAW IV)*.<sup>20</sup> The creation of each scenario started with identifying the learning objective: what do we want the students to take away from this event? The learning objective, translated into the focal point of the wargame scenario, influenced many aspects of game design such as command relationships, unit size and capabilities, and aspects of mobility and supply. It also influenced the mechanism by which students would interact with the wargame, the construction of the white cell, and overall game facilitation.<sup>21</sup> Each school deserves a detailed case study to demonstrate this process from learning objective identification through execution.

### Command and Staff College’s Pacific Challenge III

CSC’s *Pacific Challenge III (PC3)* found III MEF engaging a hypothetical Combined Task Force (CTF) on the eastern side of the Malay Peninsula in a modern-day conflict. The learning objective for the PC3 wargame scenario was concise: to develop student proficiency in the execution of staff functions at the MEF-level. This objective required that the game be designed to facilitate targeting and maneuver, provide appropriate feedback, and coordinate the translation of student plans to actions in game and game outcomes to effects provided back to the students.

The design team took multiple steps during scenario design to meet the overall learning objective. First, units were built out at the battalion level to support local maneuver while preventing the need for too much detail in tasking. Sec-

ond, *TOAW IV*’s historical equipment database was updated with modern-day capabilities such as F-22s, F-35s, YJ-62s, and Tomahawk Land Attack Missiles. Lastly, potential high-value targets, such as artillery, missile batteries, and air defense systems, were created as separate units to support individual targeting. While these actions seem commonplace, they were deliberately taken to ensure that students could task and target appropriately—a key component of the Marine Corps’ combined arms warfare, and thus a vital learning objective that the wargame itself needed to model.

CSC executed the scenario in an asynchronous fashion whereby students leveraged the outputs of *TOAW IV* without having to devote extra classroom hours (which were not available) to learning the hundreds of menu options and game mechanics themselves. Prior to each turn, student staff leaders briefed their battle rhythm outputs, such as the Commander’s Update Brief,

to the white cell by warfighting function.<sup>22</sup> After receiving the briefs and discussing with the MILFAC, the game controller would execute each side’s course of action within *TOAW IV*. The following morning, the game controller would provide situation updates to each side that summarized intelligence collections, battle damage assessments, and other actions that occurred within their respective areas of operations.

Though *TOAW IV*’s automated adjudication was the primary means of facilitating the PC3 exercise, the white cell’s impact on execution was equally vital. While all game systems, digital or analog, have shortfalls in one area or another, its successful application is found in the ability of facilitators. For example, during PC3 the white cell was required to generate effects for the intelligence collection plan, as well as the operations in the information environment plan, as *TOAW IV* was unable to produce effects in these areas. Both



**Command and Staff College’s Pacific Challenge III wargame used *TOAW IV* to develop student proficiency in staff actions at the MEF level. (Photo courtesy of Capt Benjamin Herbold.)**

these adjudication decisions and those produced within the game had to be communicated effectively to students so that they could continue with the exercise.

Overall, the PC3 wargame was an effective application of a COTS digital wargame to facilitate the CSC learning objective of developing student proficiency in the execution of staff functions. Its asynchronous nature allowed for students to plan out and execute 48 hours of actions while putting their plan to the test against an active adversary. Though not perfect, it provided significant insight into how an asynchronous game of this nature may be executed using in-house expertise.

### School of Advanced Warfighting's Singapore Sling

SAW's Singapore Sling exercise took students back in time to the Burma Theater during World War II, tasking Southeast Asia Command to conduct a "slingshot" around Singapore against portions of the Japanese Southern Expeditionary Army Group. While the PC3 wargame focused on student proficiency in a process, SAW's Singapore Sling had multiple, discrete learning objectives. First, the design team wanted to reward students for their execution of the principles of mass, maneuver, and surprise. Second, students needed to understand the importance of logistics in large-scale naval maneuver. Finally, students had to determine the effectiveness of decision-support tools developed during the planning process. The game was executed in its entirety within a four-hour timespan.

The Singapore Sling scenario was modified from a pre-existing World War II Pacific Campaign module within *TOAW IV*. The scale of exercise, level of command, and short timeframe of the game demanded a higher-level of abstraction to support rapid decision making in an area of operations that spanned the Indian Ocean. Ground units were abstracted to the division level with all attachments built within the unit's table of equipment, and naval units were divided into carriers and separate task groups. This scale was chosen to enable operational maneuver



**SAW utilized the *TOAW IV* in the Singapore Sling wargame to test the flexibility and quality of operational plans in the India/Burma theater of World War II. (Photo courtesy of Capt Benjamin Herbold.)**

while preventing unnecessary minute manipulations of small-scale forces.

During execution, a single game controller and MILFAC served as the white cell in order to expeditiously execute actions within *TOAW IV* and facilitate learning. For each turn, students had twenty minutes to receive an update on the enemy, synchronize their staffs, and inform the game controller of desired actions. This structure demanded that students utilize decision support tools developed during the planning process to keep up with the agility of the game. Further, this structure promoted the concept of rapid decision making against thinking adversaries while being forced to deal with consequences.

A key lesson from Singapore Sling was the effect that the facilitator has on the students' learning outcomes. Without the ability to communicate effects within the game to real-world operations, that is all it is: a game. During Singapore Sling, the facilitator was

able to educate throughout execution, getting the students to think of options and outcomes previously unthought of, or unseen in their previous experiences. The greatest demonstration of this effect came in the form of a comment from one of SAW's long-time faculty: "This afternoon I sat through one of the best student-led [after action reports] I have seen in SAW ... adding dimensions I have not seen in this exercise in prior years." And that comment distilled the essence of the CPG's vision for wargaming—fixing the decision-making deficiency. As the comment also indicated, the EDCOM model for institutionalization made the improvement happen, in real time, with obvious positive results. Appreciating that variation in learning outcomes required variation in the wargame selected; presenting the game to the students in a fashion they could understand and use effectively; and giving the expert organically available the freedom and support to leverage

their skills in service of CSC and SAW's needs—all combined to give Marine leaders something useful and not previously seen.

**Conclusion: Light, Not Heat**

Despite being two years into the execution of Gen Berger's *CPG* and the institutionalization of wargaming, it is likely still too early to tell whether the EDCOM model will, contrary to past efforts, made wargaming "stick," but the early signs are promising. Institutionalizing wargaming means that a culture of wargaming must first grow where it was planted and then expand outward—and that, indeed, is happening. This article already highlighted how GySgt Byrd's efforts at CEME in Quantico were implemented in Academies across the FMF. Sebastian Bae's *FMF: INDOPACOM* game has been played at the 11th MEU, 10th Marine Regiment, United States Naval Academy, and University of Kansas among Navy Reserve Officer Training Corps instructors. Beyond this are the individual experiences of the hundreds of students who have passed through MCU this academic year, all of whom have had touchpoints with educational wargaming and who will export those experiences to their new units upon graduation.

Getting PME students familiar and proficient with wargaming is critical for achieving the goal of frequent decision-making "reps and sets" envisioned in the *CPG*. One of the roads to achieving this goal is getting students wargaming touchpoints beyond the confines of their physical classrooms—for both resident and non-resident students, this means providing regular and reliable access to a digital wargaming ecosystem. This system would let students "fight" each other in wargames as homework; allow the delivery of wargames under remote or distributed learning conditions, as the past two academic years' worth of students have just experienced during the COVID-19 pandemic; and build the opportunity for "life-long learning" that permits students to continue competing with their peers, and Marines of both junior and senior ranks, across different PME curricula. EDCOM is exploring the use of cloud-based tech-

nologies to create just such a wargaming ecosystem. Not only will this system enhance the ability of resident students to access wargames outside the walls of the brick-and-mortar schools, and of non-resident students to enjoy a similar critical-thinking opportunity to that experienced by resident students, but it will also be a key vector for institutionalizing wargaming throughout the entirety of the Marine Corps educational enterprise.

Certainly, EDCOM cannot achieve the institutionalization of wargaming on its own, but the model for cultivating a wargaming culture within its walls has proven successful enough that it can be unreservedly recommended to other training and educational entities, as well as the operational FMF. Such efforts would still need to be harmonized under the Commandant's overarching vision, but at least planting the model in a multitude of places increases the opportunity for successful growth and linkage. As stated at the outset, the elements of the EDCOM model should not be surprising or controversial. Accept that no "one game to rule them all" exists, nor is such a game necessary, because different training and educational objectives will require different types of wargames to support them. Do not conflate a wargame's complexity with its utility—a simple game, properly framed to its target audience and well-executed by good facilitators, achieves depth of learning because the students do not spend time fighting with the rules, but rather getting the needed "reps and sets" of execution.

Finally, and perhaps most importantly, use the talent of individual Marines to drive institutionalization. Good wargaming is not the rare purview of a few elderly grognards sequestered in a dark room. Marine wargamers are out there, which should surprise no one because wargames are simply another form of competition, and Marines are nothing if not competitive. All of the case studies above were successful because they leveraged current and former Marines who jumped at the chance to put their passion for wargaming to work and poured themselves into the effort because they believed in the potential

wargaming offered to turn Marines into better critical thinkers and decision makers. Capitalizing on that energy is what will make the Commandant's lamented "greatest deficiency" a distant memory, and what will ensure that the Marine Corps finally makes wargaming stick.

**Notes**

1. Gen David H. Berger, *Commandant's Planning Guidance* (Washington, DC: July 2019).
2. "War Games: Key to Doctrine?"; Col E.S. Maloney, "Modern War Gaming: State of the Art," *Marine Corps Gazette*, (Quantico, VA: November 1960); Maj Frederic A. Green, "The Best Kind of War," *Marine Corps Gazette*, (Quantico, VA: November 1964); Maj Edgar F. Musgrove, "No Game," *Marine Corps Gazette*, (Quantico, VA: August 1965); Capt Douglas C. MacCaskill, "War Gaming: Tactical training for officers," *Marine Corps Gazette*, (Quantico, VA: October 1973); 1stLt T.X. Hammes, "Combat Simulation for Next To Nothing," *Marine Corps Gazette*, (Quantico, VA: March 1980); and LtCol P.D. Reissner, "It's More Than Just a Game," *Marine Corps Gazette*, (Quantico, VA: March 1984).
3. Capt C.A. Leader, "The 'TACWAR' Wargame," *Marine Corps Gazette*, (Quantico VA: December 1981).
4. Capt Stuart W. Bracken, "Modifying TacWar for the Lean Times Ahead," *Marine Corps Gazette*, (Quantico, VA: October 1992).
5. Headquarters Marine Corps, *MCO 1500.55, Military Thinking and Decision Making Exercises*, (Washington, DC: April 1997).
6. Capt Michael J. Jernigan, "Marine Doom," *Marine Corps Gazette*, (Quantico, VA: August 1997).
7. *MCO 1500.55*. The order remains marked as "current."
8. The following is taken from correspondence and informal conversations with Maj Brown, as well as the detailed background on GySgt Byrd's work with wargaming at CEME found at: Dathan Byrd, "Introduction to a Wargame Seminar (November 2019)," YouTube Video, 1:35:30, ( January 2020), available at <https://www.youtube.com>; and Dathan Byrd "Controversy and Clarity podcast season 2, #3," *Spotify*, (January 2021), available at <https://www.spotify.com>.

9. Staff, "CEME School and Course Descriptions," Marine Corps University College of Enlisted Military Education, (n.d.), available at <https://www.usmcu.edu>.

10. Details on the "Lasgah Pol" game, as well as other matrix games developed by John Curry and Tim Price, can be found on their *History of Wargaming Project* webpage, available at <http://www.wargaming.co>.

11. Staff, "Expeditionary Warfare School Course Description," Expeditionary Warfare School, (n.d.), available at <https://www.usmcu.edu>.

12. For a short summary of block gaming pieces, see Staff, "Block wargame," *Wikipedia*, (n.d.), available at <https://en.wikipedia.org>. "Component Studio" is a browser-based system of game component design tools, which provides users with either "print and play PDF" files that allow game designers to make their own prototypes at home, or lets designers send the prototype files to a professional component manufacturer; information available at <https://component.studio>.

13. Megan Eckstein, "Berger: Marines Focused on China in Developing New Way to Fight in the Pacific," *USNI News*, (October 2019), available at <https://news.usni.org>; President Joseph R. Biden, Jr., "Interim National Security Strategic Guidance," *WhiteHouse.gov*, (March 2021), available at <https://www.whitehouse.gov>; and Secretary Lloyd J. Austin III, "Message to the Force," United States Department of Defense, (March 2021), available at <https://www.defense.gov>.

14. The game's MLR order of battle differs slightly from that in the *Tentative Manual for Expeditionary Advanced Base Operations*, as initial game design work was done several months prior to the Manual's release using the information publicly available at the time.

15. Tabletop Simulator is a "sandbox"-type online game engine that allows users to either play virtual replications of existing tabletop or analog board games or use software tools to create virtual versions of their own custom-designed games.

16. Information available at <https://usmcu.edu>.

17. Information available at <https://usmcu.edu/CSC>.

18. Information available at <https://usmcu.edu/SAW>.

19. Personal correspondence between author and LtCol Matthew Vanecho in March 2021.

20. *The Operational Art of War IV* is a commercial-off-the-shelf digital wargame designed and sold by Matrix Games. This game is used primarily at the operational and strategic levels of war.

21. The "white cell" is a term commonly associated with the individuals who run the wargame and those experts who assist in adjudication. In the games referenced in this article, the white cells consisted of MILFAC and individuals controlling the wargame.

22. The White Cell for CSC's Pacific Challenge III exercises consisted of one game controller and four MILFAC.



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