

You Need to Play Wargames

by MAJ Patrick O'Keefe

In their May 2020 guidance for professional military education (PME) and talent management, the Joint Chiefs of Staff directed that “[c]urricula should leverage live, virtual, constructive and gaming methodologies with wargames and exercises involving multiple sets and repetitions to develop deeper insight and ingenuity. We must resource and develop a library of case studies, colloquia, games and exercises for use across the PME enterprise.”¹

The Maneuver Captain’s Career Course (MCCC) took the guidance to heart and applied it to our core mission of producing masters of troop-leading procedures (TLPs). For the past year, the small-group leaders (SGLs) at MCCC developed, integrated and implemented an educational company-level wargame titled **Force on Force** with positive qualitative and quantitative results for students.

Wargaming has a multitude of benefits that extend beyond the classroom, however. Maneuver units, especially battalion level and below, should conduct regular game exercises where they can practice tactics against a thinking enemy and build competence and confidence with rapid tactical decision-making.

MCCC is a 23-week course, one cornerstone of which is teaching company-level tactics and TLPs. Students produce and brief operations orders (opords) for five tactical scenarios for a grade. Students also receive the opportunity to conduct three practice TLP repetitions, one for each of the middle three modules.

In the past, the only opportunity students had to test the feasibility of their opords was during the tank and mechanized-infantry company attack module (A2): students went to the Close Combat Tactical Trainer (CCTT) and fought a simulated mission based on a plan developed during that module’s practice repetition. The handful of students who performed in leadership positions at CCTT commented positively on their experience, while those who performed as drivers, gunners and loaders did not receive as much benefit. Students frequently commented on the limited nature of execution opportunities; they clearly had the appetite for a chance to apply their learning in an execution manner, not only in planning.

This lack of multiple opportunities to test execution of plans at MCCC was the problem we identified and sought to solve with the development of **Force on Force**.

Wargames: more than just a staff tool

Wargaming as discussed in this article refers to “analytic games that simulate aspects of warfare at the tactical, operational or strategic level. They are used to examine warfighting concepts, train and educate commanders and analysts, explore scenarios and assess how force planning and posture choices affect campaign outcomes.”²

Most readers are likely familiar with the similar, but distinct, concept of “war gaming.” U.S. Army doctrine uses the term “war gaming” as a synonym for Step 4 of the military decision-making process, officially known as course-of-action (CoA) analysis. Field Manual (FM) 5-0 states, “CoA analysis (or war gaming) is a disciplined process, with rules and steps that attempt to visualize the flow of an operation, given the friendly force’s strengths and dispositions, the enemy’s capabilities and possible CoAs ... and other aspects of the situation.”³

The goal of CoA analysis is to refine a plan by identifying gaps and friction points while minimizing randomness. It uses a member of the staff, usually the executive officer, as the adjudicator for any disagreements or engagements. *Wargaming* of the analytical or educational variety differs from CoA analysis in that it attempts to simulate certain aspects of combat more realistically by adjudication outside the player’s control and thereby induce uncertainty and chaos. Weapons effects against certain targets and unit morale are two commonly simulated aspects, and dice are the most common adjudicator and inducer of chaos. The goal of wargaming is not to refine a plan or provide concrete answers but rather to build experience that players and observers can apply to future live situations.



Figure 1. MCCC students play a game of *Force on Force*. (Photo by MAJ Patrick O’Keefe)

Wargaming’s roots

Wargaming as modern military training has its roots in *kriegsspiel*. Prussian officer Georg von Reisswitz is largely responsible for introducing a tabletop wargame called *kriegsspiel* to the Prussian Army in 1824.⁴ *Kriegsspiel* was played on a 1:8000-scale map with colored pieces denoting units and dice rolled to determine the outcome of combat.⁵ Chief of the General Staff GEN Karl von Müffling directed that every regiment in the Prussian army play *kriegsspiel* regularly as training, and state funds paid for the game kits.⁶ *Kriegsspiel* had a major impact on Prussian successes in their mid-19th Century wars, particularly enabling them to out-think their Austrian and French opponents. GEN Kraft zu Hohenlohe-Ingelfingen wrote, “The ability to quickly arrive at decisions ... which characterized our officers in the Franco-Prussian War of 1870-71 was in no small measure due to the wargames.”⁷

Other nations adopted *kriegsspiel*-style wargames in the wake of the Franco-Prussian War, and they had a major impact on the conduct of World War II. Fleet ADM Chester Nimitz famously commented on the positive impact of the competitive wargames fought at the Naval War College in the interwar period in preparing the U.S. Navy to defeat the Japanese: “The war with Japan had been re-enacted in the game rooms here by so many people and in so many different ways that nothing that happened during the war was a surprise – absolutely nothing except the kamikaze tactics toward the end of the war; we had not visualized those.”⁸

The Royal Navy’s Western Approaches Tactical Unit relentlessly used wargames to simulate engagements between U-boats and escorts, not only for training officers but also to predict German tactics and develop their own.⁹ And the German army had leaders at all echelons, including noncommissioned officers, wargame to prepare for the invasion of France in 1940.¹⁰

The U.S. Marine Corps (USMC) strongly revitalized wargaming within its ranks. In his 2020 commandant’s planning guidance, USMC commandant GEN David Berger said, “In the context of training, wargaming needs to be used more broadly to fill what is arguably our greatest deficiency in the training and education of leaders: *practice in decision-making against a thinking enemy*.”^{11, 12} The USMC implements this guidance with tactical decision-making games (TDGs), decision-forcing cases and other wargames frequently at PME.

There are also informal and semi-formal organizations to support gaming as leader development in the USMC. The Marine Corps Association allows units to request, at no cost to them, games to be used at levels all the way down to privates, lance corporals and corporals.¹³ The Warfighting Society promotes “develop[ing] military minds of

investigative curiosity, analysis and synthesis” through regular chapter meetings in which TDGs and wargames are possible centerpieces.¹⁴

In the U.S. Army, however, wargaming remains largely absent from tactical echelons.

Impact at MCCC

In April 2022 I approached the chief of tactics at the time with a proposal to develop and test a company-level wargame for integration into the course. My argument rested on the idea that wargaming engages students in all three learning domains from Bloom’s Taxonomy: cognitive, psychomotor and affective.¹⁵

Wargaming engages students in the cognitive domain by forcing them to continually intake new information, analyze it and develop solutions to problems presented by a free-thinking opponent. It engages them in the psychomotor domain by using a physical map with miniature armor and infantry pieces and dice, engaging them at the guided-response level. And it engages them in the affective domain by inducing buy-in through its competitive nature, the fact that there is a winner and a loser, and the opportunity at the end to analyze through an after-action review (AAR) why one side won and the other lost.

When the concept was approved, development began of the initial set of rules which would become **Force on Force**, MCCC’s internal educational company-level wargame. The system consists of players first conducting TLPs on a scenario prompt; once complete, Blue Forces players set up according to their plan, while Red Forces players set up according to their enemy situation template. The tabletop exercise then consists of a series of turns during which each player spends phases conducting information collection and fires, movement and maneuver, followed by direct-fire engagements, reinforcing the “trigger-fire-move” method of planning maneuver. The attacker acts first in each phase, and unpredictability is induced by dice rolls for indirect and direct-fire effectiveness, based on probability-of-kill data.

In June 2022, with the rule set drafted, I approached one of my team’s SGLs and asked him to pilot the game with his seminar. He agreed and became my invaluable partner in the wargaming enterprise, providing countless hours of development work, research, resourcing and implementation on the game over the next nine months.

The seminar of 16 students piloted **Force on Force** through the entire company phase of MCCC Class 22-04, with noticeable results. Qualitatively, the participants lauded its effects on surveys; one student went so far as to say, “This was the single biggest factor in passing my opord.” Quantitatively, the seminar averaged over 2.5 percentage points higher on their graded opords when compared with the rest of the class. The seminar had a total of only three failing opords from two students for the course, compared to an average total of 5.5 failing opords from an average of four students compared to the other seminars in the class.

Using those data points, we approached the new chief of tactics with the recommendation to move forward with a full-class pilot in Fall 2022. He approved, and in January 2023 we began the pilot with a class of 159 students, MCCC Class 23-02. The results mirrored those seen in the single seminar pilot.

Based on exit surveys of 63 students conducted after iterations of wargaming, 95 percent recommended **Force on Force** be implemented across all MCCC modules with an average rating of 8/10 for how well the game reinforced module outcomes. In terms of student performance, Class 23-02 saw a statistically significant increase in grades, especially among students who might struggle with the material. The number of students who scored above 80 percent compared with the historical average from the past two years increased by 7 percent (or 11 students) for A2 and 9 percent (or 14 students) for A4 (see Table 1).

While there is no noticeable difference in grades for A3, Class 23-02 implemented a new, more difficult A3 scenario than previous classes had done. However, grades did not decrease despite the increase in difficulty of material.

These statistics are not proven causation, but it is correlation and an indicator of impact.

	A2 OPORD (ABCT company attack)	A3 OPORD (ABCT company defense)	A4 OPORD (SBCT urban attack)
Two-year historical average	72 percent	77 percent	72 percent

Class 23-02	79 percent (+7 percent)	77 percent	81 percent (+9 percent)
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The game’s key qualitative success was student discovery learning of module outcomes. For example, the major learning outcomes for the A2 module are understanding how to plan a combined-arms breach, understanding the unique capabilities and tactical employment of a tank and mechanized-infantry company/team, and understanding Chinese defensive tactics. On the exit surveys conducted after the A2 iteration of **Force on Force**, 51 percent of students indicated that their most important takeaway from the game was the importance of effective breaching fundamentals (suppress, obscure, secure, reduce, assault) to successfully breaching an obstacle belt; 24 percent indicated it was tank and mechanized-infantry company direct-fire and maneuver planning; and 18 percent indicated it was their understanding of Chinese tactics. These answers were free-response and generated by the students, not a multiple-choice response where they were prompted.

Impact beyond learning outcomes

Aside from the ability to reinforce tactical lessons-learned in the classroom and associated performance correlation, an intangible impact of **Force on Force** for our students is the ability to make tactical decisions in a real-time environment against a thinking opponent doing the same. Company-grade officers in the Army today receive fewer opportunities for real-world experience against a free-thinking enemy due to factors, including the drawdown and end of major combat operations, and the disruption by Coronavirus 19. Class 23-02’s officers have an average of 4.7 years of service. Yet in that time, less than 20 percent deployed to combat, and less than 50 percent maneuvered a formation at a combat-training center (CTC).

Army Doctrine Publication (ADP) 1-01 doctrine primer states: “War is inherently chaotic. ... Orders can and will be misunderstood, units will take wrong turns, obstacles will appear and units will consume supplies at unexpected rates. ... This chaotic nature of war makes precise cause-and-effect determinations difficult, impossible or delayed.”¹⁶

Without first-hand experience of that chaos, however, many of today’s company-grade officers have difficulty conceptualizing the importance of action-based decision-making, and they fall back on the idea that we can “plan our way to victory.”¹⁷ Due to several factors, including time, resources and feasibility of conducting complex training against a thinking enemy, officers attending higher-level PME and out in the operating force spend more time planning than they do executing. Wargaming, is a low-cost, easily repeatable way for them to exercise tactical decision-making, especially when leaders are given an opportunity to conduct TLPs on the scenario beforehand.

Retired COL Eric Walters, former instructor at multiple PME courses and a wargame developer, highlights the benefit of wargaming to building decision-making experience: “Wargaming demands continuous estimates of the situation and a seemingly never-ending series of time-constrained decisions that build upon dynamic interaction as forces collide. Wargame participants learn actively ... must come up with options, quickly make a decision, execute it and subsequently assess their thinking when opponents react – and do this repeatedly. Unexpected outcomes, surprises and revised estimates are commonplace, as are changes in objectives and missions.”¹⁸

Each **Force on Force** game turn, officers must make decisions about where to maneuver their platoons to gain positions of relative direct-fire advantage, but also if and how to employ enablers to help achieve their desired effects. Decisions on calling indirect fires, employing obscuration smoke and using company-level small unmanned aerial systems are all impacted by resource limitations.

For example, calling a smoke mission to cover a platoon’s movement to engage an enemy reconnaissance platoon may ensure that unit is not destroyed in the open, but uses one of only a handful of turns of smoke allocated to that player for the entire game. Is that an effective use of the smoke, or is the risk to the maneuver platoon against a smaller reconnaissance element outweighed by the risk to the breach element if they have less smoke than originally planned later in the operation? Will a reduced-strength platoon be a greater risk than reduced-smoke time when conducting the breach?

These are commander decisions, and **Force on Force** allows students to make them in a consequence-free environment, followed by an AAR in which they can analyze their choices and codify lessons. Through the iterative cycle of repeated games, officers gain valuable “sets and reps” at tactical decision-making over an analog common operating picture far more than what they will normally experience in a field-training environment. This builds

critical decision-making skills as well as experiential pattern recognition of common tactical problems they will face at a CTC or in combat.

Looking ahead

Wargaming should not be limited to PME. The entire force needs to take advantage of the benefits highlighted in this article. Training opportunities against a fully invested, free-thinking enemy are fewer than we would like in the active force for the same reasons as in PME: time, resources and feasibility. Wargaming, on the other hand, requires little cost in terms of setup, and many games can be played quickly; **Force on Force** can be played in under an hour, feasible for execution over a lunch break or between physical training and the beginning of the duty day, or even in austere environments.

Even if played only once per week, leaders would drastically increase their chances to exercise decision-making and naturally generate conversation on company-level tactics among each other. Units should use wargaming as low-cost, high-payoff opportunities for leader development, staff training and preparing for rotations to CTCs.

As professionals, we should seek out every opportunity to practice our craft, and wargaming is one such opportunity that is not widely publicized or popularized in the modern Army despite its long professional military tradition. Wargaming may not look like training on its surface, with game pieces, dice and a boardgame-like map. This can be an obstacle to employment, as some leaders may have an emotional reaction to what they view as something for children or only for personal off-duty consumption. But like GEN von Müffling said, "It's not a game at all! It's training for war!"

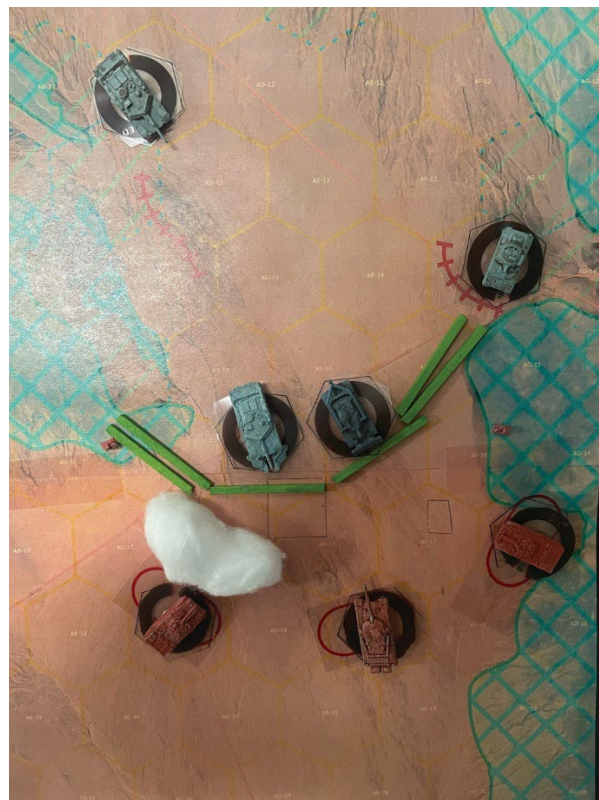


Figure 2. An example situation in *Force on Force*: a U.S. armor and mechanized-infantry company/team attempts a combined-arms breach against an Olvanan defending force. (Photo by MAJ Patrick O'Keefe)

The students at MCCC are leaving more prepared to out-think the enemy and win when they arrive at units in the force. Units should continue this training with wargaming programs. There is a vast catalogue of commercial and educational wargames units can access that are useful for reinforcing tactics and decision-making. These games scale from individual fire team or squad level up to simulating actions across the joint force at theater level.

Ultimately the specifics of the games chosen are not as important as the fact that units should be gaming, enabling leaders to compete in real time where they can exercise rapid decision-making in tactical situations. This builds competence and confidence in their ability to analyze situations and make the correct decision when it matters most: in combat, when the plan has failed and their Soldiers look to them and ask, “What next?”

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The rules for **Force on Force** and a to-scale map can be found at <https://www.milsuite.mil/book/groups/forceonforce/> (Common Access Card protected). You can use these rules at your unit with print-and-play pieces or by ordering from your favorite vendor.

Notes

¹ The Joint Chiefs of Staff; *Developing Today’s Joint Officers for Tomorrow’s Ways of War: The Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management*; May 1, 2020;

https://www.jcs.mil/Portals/36/Documents/Doctrine/education/jcs_pme_tm_vision.pdf?ver=2020-05-15-102429-817.

² The RAND Corporation; <https://www.rand.org/topics/wargaming.html>.

³ Department of the Army; FM 5-0, *Planning and Orders Production*; May 16, 2022.

⁴ Milan Vego; “German Wargaming”; *Naval War College Review*; Vol. 65, No. 4; 2012; <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1494&context=nwc-review>.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ CPT Dale C. Rielage; “Wargaming Must Get Red Right”; *Proceedings*; Vol. 143/1/1; January 2017;

<https://www.usni.org/magazines/proceedings/2017/january/war-gaming-must-get-red-right>.

⁹ Paul Edward Strong; “Wargaming the Atlantic War”; paper for MORS Wargaming Special Meeting; October 2017;

<https://www.professionalwargaming.co.uk/171210WATU-MORS.pdf>.

¹⁰ Vego.

¹¹ Emphasis added.

¹² GEN David Berger; commandant’s planning guidance; 2020;

https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant%27s%20Planning%20Guidance_2019.pdf?ver=2019-07-16-200152-700.

¹³ Marine Corps Association; <https://mca-marines.org/request-a-wargame/>.

¹⁴ The Warfighting Society; <https://www.themaneuverist.org/about-us>.

¹⁵ The London School of Management; “The Three Domains of Learning – Cognitive; Affective and Psychomotor – Its Application in Teaching and Learning”; Jan. 21, 2019; <https://lsme.ac.uk/blogs/the-three-3-domains-of-learning-cognitive-affective-and-psychomotor-caps-its-application-in-teaching-and-learning/>. “The cognitive domain aims to develop the mental skills and the acquisition of knowledge of the individual. ...The psychomotor domain includes [using] motor skills and the ability to coordinate them. ...The affective domain includes the feelings, emotions and attitudes of the individual.”

¹⁶ Department of the Army; *Doctrine Primer: [ADP] 1-01*; July 2019.

¹⁷ Eric M. Walters; “Developing Self-Confidence in Military Decision-Making”; *Marine Corps University Journal*; Vol. 12 No. 2;

<https://www.usmcu.edu/Outreach/Marine-Corps-University-Press/MCU-Journal/JAMS-Vol-12-No-2/Developing-Self-Confidence-in-Military-Decision-Making/>.

¹⁸ Ibid.

Acronym Quick-Scan

AAR – after-action review

ADP – Army Doctrine Publication

CCTT – Close Combat Tactical Trainer

CoA – course of action

CTC – combat-training center

FM – field manual

MCCC – Maneuver Captain’s Career Course

Opord – operations order

PME – professional military education

SGL – small-group leader

TDG – tactical decision-making game

TLP – troop-leading procedure

USMC – U.S. Marine Corps