



Wargaming: *Training, Educational Tool for the Future*

By Thomas LaFleur

It is still said, over 70 years later, that much of the success of the U.S. Navy in WWII was due to iterative learning through continual examination of a war in the Pacific through gaming. Despite that immense success, wargaming has fallen out of favor in some defense circles. This article intends to reenergize the discussion on the utility of wargaming.

A wargame is generally considered a strategy game that examines military operations, typically battles of some significance, the outcomes from which are based on choices participants make during

the conduct of the game. The game is strategic, not referring to a particular level of war but to the nature of the game pitting two or more thinking adversaries against each other, each attempting to simultaneously cause and solve military problems in a crucible of competition. Wargaming has several components, among them multiple forces or sides, each with clearly delineated capability sets not always equal in composition, disposition, or strength, operating on a tangible piece of terrain, and a clear and well-defined set of rules.

Wargames are not exclusively in the realm of the military; business and other competitive venues use gaming to determine the best moves

to make, given the condition set, to maximize possible outcomes, such as when to introduce a new product line, or how to streamline current processes.

From these wargaming results, strategies are formed, modified, or scrapped to gain, regain, or maintain competitive advantage over not a theoretical adversary, but a real one. Therefore, the real point of wargaming is transference: can the game results from one epoch or set of conditions be transferred to a similar situation with similar expected results? Apparently, thousands of practitioners believe it can. But why exactly is this and can those results work anachronistically; i.e., can the results from a

game done in 2016 be applied effectively to a scenario that will occur in 2035 or can the results from a game based on 18th Century capabilities be extrapolated to inform 21st Century decision makers? The purpose of this short article is, first, to discuss in general terms the value of wargaming as both a training and education tool, and, second, to determine its specific utility for the examination of future warfare. The remainder of this article will focus on military wargaming.

Wargaming is certainly about problem solving, but also about problem posing, such as importing problems that did not exist at the time/epoch of the wargame being examined. It follows that to consider both problem solving and problem posing, conditions must be set in the wargame that drive the opponents into thinking about those specific problem types. Therefore, wargaming begins with a thorough understanding of the situation, leading to two outcomes: first, to help one side solve problems posed by the other, and second, to cause problems for the other side. So wargaming can generate a positive outcome through the ability to isolate specific problems and focus learning on key/critical aspects of warfare to gain a better appreciation of dealing with specific military problems. In the U.S. Army and the U.S. Marine Corps, these specific military problems are known as the Army Warfighting Challenges and Marine Corps

Warfighting Challenges respectively, the framework for developing concepts and solution strategies that allow forces to fight and win in a complex future operational environment. The Warfighting Challenges provide a basic foundation for learning and exploring about future warfare; therefore, wargaming in the U.S. Army must be able to be applied to this framework to be useful. The application of Warfighting Challenges to

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learning is an essential skill for Army and Marine Corps officers to learn and should be considered essential for all military professionals.

With that learning framework established, one might wonder if wargaming can help train and educate military professionals to examine operations to learn lessons about the past and/or to think critically about the future. Absolutely! However, it is often difficult to determine whether wargaming provides training to participants, educates participants, or tries to do both.

To unravel what wargaming attempts to do regarding training and education, we must first establish the difference between training and education. For the purposes of this article, training effects implies the participant will be able to directly apply the skills and outcomes

learned from wargaming to improve the performance of his/her military duties. A wargame that focuses on solving modern-day problems using a current

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threat template and environment as the basis for the scenario, such as conducting operations against ISIL in Iraq, serves a training for an officer about to be stationed in Baghdad. Education effects implies a broader application of the skills and outcomes from the wargaming event. In that same wargame described above, the general application of a sensor-shooter linkage that proved useful in the specific game against a specific threat could be exportable to other conditions against other opponents. In addition, the ways creative reasoning and critical thinking are applied in wargaming can be generalized and made into tools for future use

in both planning and execution of operations. This is also education, combining the theory behind choices and the practical application and outcomes of those choices. In the military, training and education often overlap to produce adaptive and creative problem solvers, which is a goal for all Services.

What are the critical skills developed in wargaming? Well, on the surface, they are skills introduced to our NCOs and officers in Professional Military Education (PME), such as critical thinking, creative reasoning, problem framing, problem solving, and the like. However, the skills introduced in PME are not often reinforced through repetition or made relevant through rigor. Only in courses such as the Army's School of Advanced Military Studies, Marine Corps' School of Advanced Warfighting, Air Force's School of Advanced Air and Space Studies, or Navy's

Maritime Advanced Warfighting School does PME focus on aspects of these skills to such a degree as to train an officer from a journeyman to expert. But even in these courses, officers are not required to examine the problem of the creation of a future force. In those courses, much as in the fleets, theater armies, and numbered air forces, the problems of today subsume the energy of our thinkers and planners. How can we energize our best

level of output. These games can be conducted as routine parts of our current planning process, using operational planning teams and joint planning groups that exist in our Joint Force today.

To add greater clarity to this argument, it is evident that there is a requirement to codify wargaming method and process in order to gain maximum value in using wargaming as a training and educational tool that can lead to positive

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and brightest to develop and apply these critical skills to focus on tomorrow's challenges?

I surmise that wargaming can provide three immediate benefits to the joint force that will lead to advantage for future force development. First, wargaming allows officers to gain an appreciation for the problems faced by leaders in past battles for the purpose of applying the historically chosen problem-solving techniques to future scenarios. These scenarios could mirror the conditions that officer's unit might find itself facing in future battles. Next, wargaming allows officers to further develop and hone the critical skills that every leader needs to command at the higher levels, skills that will atrophy if not exercised regularly. Finally, wargaming forces officers to interact, integrate, and problem solve together; leveraging the power of teamwork to a higher

outcomes specific to future force development. To make wargaming useful, it is imperative to first frame questions about what must be learned to solve/pose problems and tie those questions to a detailed scenario, the framework of the wargame, which will set the conditions to discuss those questions in a context that is transferable across time. This could be an historical case study displaying the proper conditions that will lead to answering those questions and then applying them forward in time, or it may require a hypothetical scenario be developed. In the hypothetical scenario, we must ensure that as much realism as possible is put into the development of this framework, from the capabilities available to all forces and the piece of terrain the forces are fighting on, to the doctrine or concepts the forces will use to employ their capabilities to the adversary's way of war. As much

realism as possible is the only sure-fire way to guarantee meaningful results. The disposition of none of these three components can be left to the participant's imagination; it must be explicit.

To learn lessons about decision-making and command in general, rather than questions about certain types of capabilities, one can be less choosy about which case study to use, since lessons of leadership and decision making are essentially timeless. However, when applying the problem solving or problem posing to a future set of problems, we must follow a few guidelines.

First, we must be careful to not select the historical case first, and then determine what we want to learn next. That is back-

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wards. For example, we cannot expect that an historical battle that teaches lessons on 19th Century maneuver will be directly applicable to maneuver in a 21st Century battle, as the conditions in the case study are clearly not the same as will be the conditions in the future. It is the context (the condition set inherent in the scenario that makes it unique) that is essential, not the universality of observations about an aspect of the phenomenon. In essence, while elements of maneuver are timeless, maneuver itself is not. Maneuver has universal qualities such as "speed" and "mass," but maneuver also has unique qualities that are based on capabilities from a certain

time period, such as "type," that provide context that must be transferable to be useful. In the case of "speed" and "mass," maneuver in the 18th Century moved at the speed of a horse with effects massed in terms of tons, whereby maneuver in the 21st Century certainly moves at the speed of sound and possibly at the speed of light and could mass effects in terms of kilotons or megatons. They clearly change in scale, but not in terms of universal application. In terms of "type," maneuver in the 20th Century was physical; in the 21st Century, maneuver can be both physical and virtual. This has significant impact on what things maneuver and how we will conduct maneuver. It is the combination of universal and unique qualities that will help us determine

the context of the future solution space to problem solving and problem posing, and wargaming must take this difference into account to achieve results that will be meaningful for future force development.

Second, we must deal with a paradox concerning case study analysis in that selecting cases based on the lessons we want to learn, we tend to focus our learning on that very lesson! This is a sticky point with historians and political scientists alike, as universal truths rarely lead to causality, with context as the guilty culprit. However, we can use the findings from such a method to determine what could have worked better (and what we could do in the future) given a similar type of situation. Once we determine what to ask, how to frame the scenario, and which universal and contextual qualities are transferable, we cannot rest on our laurels and stop learning. Rather, we must then begin a robust experimental phase, often with modeling and simulations followed by live unit training, to ensure the lessons observed from a wargame have merit and that the problems solved and posed are valid. To write concepts or doctrine based on war-

game results alone is dangerous as the wargame itself does not prove anything; it merely indicates that the problem solving set or problem posing set might be possible and that further exploration is now warranted.

The last concern is that participants must be steeped in detailed and specific knowledge to solve and pose problems that lead to useful insight from a wargame.

This includes detailed knowledge of the application of land/sea/air/cyber/space power, intimate knowledge (not

cursory study) of the scenario or case study, and knowledge of what type of questions and answers are possible from such a study. Participants must be able to juxtapose place and time (put themselves into the future space and into the future situation) as well as be able to see the nuance of the context in time to help solve or pose meaningful problems. No matter how potentially advantageous it might seem to bring high-ranking or high-visibility participants to a wargame, without a detailed study of the specific scenario, they will not be able to juxtapose place and time and see the nuance of the context fast enough to help solve or pose meaningful problems. They may reach

nonsensical conclusions, based on flawed assumptions or lack of detailed knowledge. This is not to say the detailed knowledge academics or participants from other services have is useless; it is certainly not. Rather, it must be tempered with the nuance of context from the specific scenario to be most useful.

As a final caution, the negative outcome of wargaming is that it cannot provide a holistic answer

to any phenomenon of war. This is where education eclipses training and provides a breadth of thought leading to a practical set of solutions. If you think of the relationship between war and wargaming as akin to the relationship of the chair to the shadow of a chair depicted in Plato's cave, you will see that wargames can represent the actual phenomenon of war, but never in the depth of thought or complexity necessary to make a definitive statement about war. Because war is more complex than any one human being can conceive, filled with inconsistencies, subjectivity, and misapplication of observations, the study of war is rife with misperception. So, because there will always

be more variables present in war than possible to contend with or isolate in wargaming, wargaming represents a reductionist approach to a complex military problem, albeit a quite useful one.

The Services must continue to use wargaming as a training tool to develop the creativity and problem solving abilities of Soldiers, Sailors, Marines, and Airmen, and as an educational tool to broaden

perspective that leads to the development of the future Joint force. The power of wargaming is transference; to ensure game results are transferable to

a similar situation with similar expected results. To ensure transference, we must do three things. First, proper wargaming requires a nuanced scenario, as described above. Second, proper wargaming requires participants who are steeped in detailed and specific knowledge in order to solve and pose problems that lead to useful insight. Finally, it is the combination of universal and unique qualities, developed in the scenario, which will help determine the context of the future solution space. Only when all three aspects of wargame development are in place can transference occur and allow the United States to develop an effective future force.

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The views and opinions expressed are the author's and do not represent the U.S. Army or Department of Defense.

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