Forging Wargamers

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Chapter Seven

Wargaming

Sponsor Education

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INTRODUCTION AND BACKGROUND
To understand a perspective on sponsors, the authors first share their experiences upon which they have based their observations. Each organization in the Department of Defense (DOD), or those that work with the DOD, that does wargaming has a unique approach. Just as no two wargames are alike, no two wargaming sponsors are alike. The authors first provide the context from which they have built their shared vision of sponsors. They then describe the challenges they see with today’s DOD wargaming sponsors. After outlining the key tenets of the sponsor education process they developed during the last decade for the sponsors of wargames, the authors then provide their recommendations on educating DOD wargaming sponsors writ large, building on experiences with wargaming sponsors and also leveraging experience teaching wargaming throughout the DOD and around the world with defense allies and partners.

NAVAL POSTGRADUATE SCHOOL WARGAMING PROGRAM
The wargaming program at the Naval Postgraduate School (NPS) in Monterey, California, is fairly unique when compared to other organizations that teach and conduct wargaming. For example, the staffing of the wargaming enterprise differs greatly from that of its larger cousin, the Naval War College (NWC) in Newport, Rhode Island. While NWC has no less than four differ-
ent wargaming organizations (Wargaming Department, Halsey Alpha and Bravo Research Groups, and CIPI Gravely Program) with wargaming staff, faculty, and contractors that number more than 100 personnel, the NPS Wargaming Center consists of two faculty and a research associate. Despite the small size, NPS conducts 5–15 sponsored wargames annually, predominantly for DOD or defense partner organizations. The Wargaming Center has conducted more than 80 sponsored wargames in the last 12 years for 65 different organizations.

The pool of talent largely responsible for the design, conduct, and documentation of the wargames are the NPS graduate students predominantly from the Operations Research and Defense Analysis curricula. Most of these students are midgrade military officers who have been on active duty anywhere from 6 to 12 years and come from all U.S. Services and defense allies and partners. Before they set foot in the class to take the Wargaming Applications course, they may not have seen or participated in a wargame or, if they do have wargaming experience, that experience can vary greatly.¹

The genesis of a typical NPS wargame begins with the 11-week Wargaming Applications course that is designed to teach wargaming using a learn-by-doing model. The faculty organize the students into teams of 4–6 students, each working for a real-world sponsor. The first six weeks consist of the formal education process that includes reading papers, viewing recorded lectures, and completing a series of assessments to track their progress. On week one, the students are introduced to wargaming. On week two, each team has their first sponsor engagement, where they learn about the wargame they will design, conduct, and analyze for their sponsor. During weeks two through six, the teams initiate and engage with their sponsor, developing the foundational products for the construction of the sponsor’s wargame. Once they pass their Wargaming

Apprentice Certification Exam on week six, and the wargaming teams’ foundational products are refined and finalized, they devote the next four weeks to completing the design and development of the wargame. Sometime during week 11, the wargame is conducted for the sponsor. After analyzing the wargame’s data, the students then brief results back to the sponsor, and write an executive summary and wargame report to document their wargame.

NPS also supports wargame development through week-long wargaming courses and workshops conducted by the NPS Mobile Education Team (MET). The team travels to the sponsoring organization’s location and mentors a group of 16–20 students from Monday’s sponsor in-brief to Friday’s wargames, designed and conducted by teams of students who have created a wargame as they are learning wargaming, just as the resident course students would. The goals of these courses and workshops are twofold. First, NPS helps the organization build a cadre of wargamers who, after the weeklong engagement, have experienced the initiation, design, development, execution, and analysis of a wargame in 40 hours of instruction and hands-on practical exercises. Second, if the organization has wisely chosen the wargaming topic that the students work on throughout the week, the organization will already have the foundation of a wargame created and demonstrated that they can build on to address wargaming needs in the months ahead. Just as with the resident course, the sponsoring organization of the MET provides the wargaming topic that the students work on throughout the week, with the students engaging the sponsor on Monday, reengaging on Wednesday, and then conducting the wargame for the sponsor on Friday.

NPS WARGAME SPONSORS

Introduction
DOD wargaming sponsors come from a variety of organizations. The Joint Staff, Service components, combatant commands, and other flag-level major commands all use war-
gaming as well as other tools to better understand the threats
the nation faces today and to better prepare for the threats of
the future. The background and wargaming experience of the
sponsors can vary greatly, ranging from active duty to defense
civilians and midgrade to flag rank equivalent. They may have
had little to no experience with wargaming; however, most be-
lieve that a wargame is a simulation of some aspects of military
and/or government endeavor.

Since NPS students are destined to return to their respec-
tive Services as defense analysts, the faculty want them to ex-
perience as close to a real-life sponsor encounter as possible
during the wargaming course to prepare them for the future.
It has been the authors’ experience that many defense spon-
sors only have a vague idea of what a wargame is, and if you
asked them the difference between a wargame and a closed-
loop combat simulation, some would struggle to distinguish
between the two. A few may even offer that a closed-loop
combat simulation is simply a computerized wargame. While
the 2015 U.S. DOD reinvigoration of wargaming by then Deputy
Secretary of Defense Robert O. Work has served to help
educate many senior leaders about wargaming, the notion
that “wargaming would be better if we just automated it all”
is still found in the Pentagon, in combatant commands, and
throughout the Services.²

CHALLENGES WITH TODAY’S DOD WARGAMING SPONSORS
Many senior leaders today do not have a good understanding
of what wargaming can contribute to their organization. There
are several reasons for this.

First, wargaming has been all but abandoned as a profes-
sional development tool for warfighters. Commanders used to
devote time to wargames that allowed senior leaders to pass
on war planning and warfighting lessons to their subordinates.

² Robert O. Work memorandum, “Wargaming and Innovation,” Deputy Secretary of
Much like the Prussians’ *Free Kriegsspiel*, good leaders would test their junior officers and noncommissioned officers by having them wargame plans before field exercises and deployments, assessing and updating their subordinate’s professional knowledge through mentoring. Today, that rarely occurs.

Second, wargaming has been given short shrift as a planning tool. The Cold War offered two fairly static major areas of operation (AOR) for nearly 40 years, where the nation planned to fight: Korea and Europe. From the mid-1950s until the Berlin Wall fell, not much changed in these areas, so war plans did not need extensive updating, hence little wargaming of these AORs occurred.

Third, with the rise of the computer-based combat simulations championed by the analysis and training communities, wargaming was seen as an outdated tool whose time had come and gone. Operations research analysts embraced and oversold the combat simulation as their flagship analytic tool, and many became advocates for purely quantitative analysis tools, neglecting the need for warfighters to leverage wargaming to develop robust concepts of operations that ensured operationally relevant scenarios were instantiated in combat simulations. This, coupled with the ever-increasing digitization of day-to-day lives, has led many senior leaders to believe that digitization makes everything better.

Often wargaming sponsors do not know that there are different *purposes* for conducting wargames, and these sponsors struggle to communicate what the objective of the wargame is, to include the primary target (players or sponsor) of the wargaming effort they wish the NPS team to address.

EDUCATING WARGAMING SPONSORS

NPS then works to educate the sponsors on the basics of war-

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gaming much as with new wargaming students. They need to understand the strengths and weaknesses of wargaming and combat simulations as analytic tools, the different purposes of wargames, and the sponsor engagement process that allows the sponsor and the wargaming team to develop a shared vision of the problem that the wargame will be designed to address.

WARGAMES AND COMBAT SIMULATIONS
NPS educates sponsors six weeks to six months before they engage the students by sending them three pages of guidance. First, NPS wants to ensure they know the difference between wargaming and what the authors call “simulation studies.” Wargames focus on human decision making and produce largely qualitative results, such as concepts of operations or risk assessment of courses of action. Wargames are very useful in understanding how commanders may fight different force structures with different concepts of operations. Quantifying how well each force structure may fight is better suited to simulation studies. Simulation studies use closed-loop, computer-based combat simulations to produce large amounts of quantitative data. This data is then used to statistically compare the attributes of different force alternatives. In the context of a campaign analysis, wargaming and simulation studies are used together. Wargaming is used to determine how each force alternative fights (i.e., concepts of operations and employment or courses of action), and then the simulation, after instantiating how each alternative fights in the simulation, is used to determine how well each force fights, comparing the alternatives’ force effectiveness using quantitative measures of effectiveness and performance.

WARGAMING PURPOSES
NPS then educates the sponsor to the different purposes of defense wargaming. This is vital for them to understand so they can better communicate to the students their wargaming
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needs. The authors see three primary purposes for wargaming used in defense: analytical, educational, and experiential.

The purpose of an educational wargame is to educate the players. It may introduce them to new concepts or technologies, new doctrine or tactics, or a new region of interest’s geography and adversary. The series of War Plan Orange wargames at the Naval War College from 1919 to 1940 immediately comes to mind as an example of educational wargaming.\(^5\)

The purpose of an experiential wargame is to provide the players with experience. While that sounds similar to an educational wargame, an experiential wargame is crafted to allow the players to experience a specific role in a simulated environment to improve their ability to function in that same role in a similar real-world environment. Think of having a command and staff plan and execute simulated combat missions prior to a real-world deployment. The U.S. Army’s Mission Command Training Program conducts wargaming to prepare commands and staffs for overseas deployment.\(^6\)

The purpose of educational and experiential wargames is closely related in that the primary focus of the wargame is to impart something to the players—education or experience. The analytical wargame differs from these two purposes because the analytical wargame is focused on imparting something to the sponsor of the wargame. Most of the wargames conducted at NPS are analytical wargames.

An analytical wargame is designed to produce the information that allows the wargaming team to provide insights or findings from the wargame to the wargame’s sponsor. To begin the wargaming process, the sponsor provides the wargame’s objective and specifies several key issues that the wargame must address. The wargame is then constructed to allow its players to produce the information that the wargaming team

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\(^6\) “Mission Command Training Program (MCTP) Overview Brief” (brief, Col John M. McHugh Training Center Leavenworth, KS, 28 July 2020).
needs to then analyze, ultimately concluding in the formulation of the findings and insights for each of the sponsor's key issues. While choosing the players with the proper background is vital to the success of the wargame, there is no expectation that the wargame needs to be constructed to impart any experience or knowledge to the players.

Planning wargames are a particular type of analytical wargame where the objective is to test several courses of action in order to select the best one from which to develop a plan. *Joint Planning*, Joint Publication 5-0, outlines wargaming's role in the seven-step planning process and prescribes a wargaming methodology called action-reaction-counteraction for constructing the wargame's moves. While NPS faculty have some pedagogical reservations about the robustness of the methodology, at least the combatant commands are applying ANY rigor to wargaming as they complete the planning process. The authors strongly suspect many planning wargames are nothing more than hastily organized check-the-box events (or BOPSATs, bunch of people sitting around talking) that confirm the commander's favorite course of action is indeed brilliant.

**SPONSOR ENGAGEMENT PROCESS**

The authors advocate for a series of sponsor engagements between the sponsor and the wargaming team to come to an understanding of the amount of effort required. The ultimate goal of this engagement is the production of the sponsor proposal agreement, which can also be thought of as a sponsor contract, although NPS shies away from using the word *contract* as sponsors would then want to get their organization's legal team involved in reviewing contracts.

The authors encourage the sponsors not to scope the wargame to something they believe the students can accomplish. Their experience with real-life sponsors (both authors served as operations research analysts on active duty for many years)

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is that sponsors often have no idea what is involved in creating and conducting a wargame. When the sponsor states their wargame’s objective and key issues, they may not know if they are asking for weeks, months, or even years of effort. NPS wants the students to experience this firsthand. The challenge many military officers face is that they have worked for military leaders their entire career. Those leaders typically understand what resources their subordinates have at their disposal, and thus they give them tasks that can be addressed with the resources on hand. DOD sponsors of analytical efforts typically do not understand the resources required or the resources on hand and may have little knowledge of other analytical requirements competing for the same resources. Unless the wargaming team provides some boundaries on what can be achieved, the team will agree to six months of wargaming that must be completed.
in 11 weeks, setting the stage for disappointment and frustration on the part of all involved.

THREE SPONSOR INTERACTIONS

The sponsor proposal agreement is informed by a minimum of three sponsor engagements. The initial engagement on week two is where the sponsor describes the wargame they want the student team to design, conduct, and analyze. The briefing also may include information about the sponsor’s organization and indicate why the organization needs the wargame to be conducted.

After this first engagement, the NPS wargaming team meets with the goal of understanding the sponsor’s objective and issues. They may rewrite the objective and issues so that they are more easily understood by the team. The team will also identify any constraints and assumptions they heard from the sponsor and record those. They may begin development of a lexicon to ensure that DOD buzzwords that are currently in vogue are clearly understood by the sponsor and team. Finally, the team identifies the requests for information (RFIs) that will go back to the sponsor for action. Once all this is completed, the team will schedule the second sponsor interaction.

The purpose of the second interaction is clarification—did the team understand what the sponsor wants? The sponsor and team need to agree on the objective and issues so there is no misunderstanding about what the team is tasked to do. Terms that need clarification should be agreed to as well. If the sponsor and team have not worked together, the authors discourage any attempt by the team to scope the wargame at this point. At most, the team may offer a prioritized set of issues to the sponsor to see if the team’s assessment matches that of the sponsor. This prioritization would then be used by the team for the third, scoping engagement if necessary.

The third engagement can be the most difficult as it is likely that the team will tell the sponsor that some of their issues may need to be treated less rigorously than others, or per-
haps even dropped from the wargame. The wargaming team is obligated to prepare for this organization by taking each of the sponsor’s key issues and determining the amount of effort the wargame will require to address each issue, which is made when the team drafts the initial Data Collection and Management Plan (DCMP). The DCMP forms the foundation on which the wargame will be constructed. Each of the sponsor’s issues will be decomposed into its constituent essential questions (EQs). Each of these EQs need to be answered if that particular sponsor issue is to be fully addressed in the wargame. Some of these EQs may be answered through preliminary research, and some will be answered by the wargame itself. Scoping the wargame cannot take place until the amount of effort each issue will take to address has been estimated by this process.

**Scoping Techniques**

NPS teaches the students two techniques that can be used to bring the sponsor to an understanding of the amount of effort the wargaming team may exert on the sponsored wargame. The first is what we call the analyst business model, which presents the three attributes: good, fast, and cheap. The sponsor can have any two at the expense of the third. For example, if the sponsor wants a quality wargame (good), designed and conducted in a short amount of time (fast), then a large quantity of resources will need to be expended (expensive). For the student teams, there is usually no option to throw additional resources at the problem, so the analyst business model is something that will be more useful later in their career.

The faculty require students to create a list of constraints, limitations, and assumptions (CLAs) for the wargame. These CLAs are a formalized method of communicating the quality of the wargame the team can produce for the sponsor.

The constraints originate from and are imposed by the sponsor. Time is a universal constraint, where the game must be completed and results documented before a given date.
Academically, the time is also a function of the end of the NPS academic quarter. Other constraints a sponsor may impose include the use of a specific scenario or certain players.

Limitations represent an inability of the wargaming team to completely address the sponsor’s issues. They may include a lack of subject matter expertise to design the game or the lack of experience the pool of players they have recruited can bring to the table. Wargames across the DOD typically struggle to ensure the adversary is well played. Constraints may impose limitations, such as the constraint of time minimizing the amount of key issues that the team’s wargame can address. Limitations need to be revealed to the sponsor so they understand the limitations’ effect on the quality of the wargame’s outputs. The sponsor may be able to mitigate some limitations by providing the team additional resources, such as access to subject matter experts, players with the right pedigree from their organization, and perhaps funding to recruit experienced adversary players to the wargame.

Assumptions are statements that are taken as true in the absence of facts. Some assumptions originate from the sponsor, usually describing the environment within which the wargame is to be conducted. The wargaming team may need to make additional assumptions. Often these assumptions are made to better focus players on the wargame’s primary issues. Cold War studies focused on analyzing future force structure requirements usually assumed that nuclear weapons would not be used, as this would unnecessarily complicate and obfuscate the analysis.

Most study team limitations need to be accommodated by assumptions. For example, a limitation for a wargame focusing on new technology may be a lack of operational performance data. The accompanying assumption may be that operational test data is a reasonable surrogate for operational performance data.

The CLAs included in the sponsor proposal agreement are
only the initial draft. The CLAs will mature during the course of the wargame’s development, and they must be revisited with the sponsor periodically. The final version of the CLAs needs to be *accepted* by the sponsor to ensure that both sponsor and team agree and to ensure that the wargaming team has not “assumed away” a key aspect of the wargame the sponsor wants examined.

The authors do manage the sponsors’ expectations about the length of the actual wargame that their student teams will conduct for them. As the NPS students are taking the Wargaming Applications Course, they will also be taking between two and four other courses and they also may be working on their theses, so producing a wargame for the sponsor is not the only task they have to complete in 11 weeks. NPS wargames are small, usually fewer than 20 participants. The typical NPS wargame will take 8–12 hours of actual game time, and is usually executed during a three-day period, which also includes in briefs, game socialization, and postgame analysis.

**SPONSOR PROPOSAL AGREEMENT**

The sponsor proposal agreement is between the sponsor and the NPS student team. The agreement is signed by both parties by the end of week four. The agreement includes the wargame’s objective and the sponsor’s key issues. The wargaming team provides the sponsor with the initial draft of the constraints, limitations, and assumptions as an appendix to the agreement. The agreement also indicates who has accepted the responsibility to provide the scenario of the wargame and who is responsible for recruiting the players.

The sponsor proposal agreement, once completed, ensures that the development of the wargame will be properly focused and will have a reasonable chance of adequately addressing the sponsor’s key issues. While no agreement can prevent what in the DOD is affectionately known as *mission creep*—adding tasks to be completed after the end of the problem definition
phase—the agreement does provide a point of departure that the wargaming team can use to negotiate with the sponsor in an attempt to keep the wargame on track if the sponsor needs to add tasks after the agreement has been signed. The general idea is that the agreement has specified the amount of effort that the wargaming team can expend within the allotted time frame on behalf of the sponsor. If another task is added, then a task needs to be removed from the original agreement. A reasonable sponsor will appreciate this and will work with the team. In the larger DOD world, not all sponsors are reasonable.

**Sponsor Wargaming Proposal Agreement Example**
The following wargame proposal is agreed to by the undersigned.

**Sponsor objective and issues:**
Wargame objective: Analyze Atlantic Fleet operations in support of NATO
Wargame issues to be examined:
- Assess the ability of the Atlantic Fleet to safeguard convoys
- Assess the ability of the Atlantic Fleet to conduct antisurface warfare
- Assess the ability of the Atlantic Fleet to conduct antisubmarine warfare
- Assess the ability of the Atlantic Fleet to engage selected operational targets ashore
- Assess the ability of the Atlantic Fleet to engage selected strategic targets ashore
- Assess the ability of the Atlantic Fleet to conduct amphibious operations

**Wargame details:**
- Wargame scenario provided by sponsor (Baltic Scenario)
• Players recruited/provided by sponsor (representatives from Atlantic Fleet command group and principal staff elements

Time line:
• Date of sponsor/wargaming team interim progress review (IPR): 1 May 2022
• Dates the wargame will be executed: 6–8 June 2022
• Date the analysis brief will be provided to sponsor by wargaming team: 14 June 2022
• Date the executive summary, final, report and all wargame materials provided to sponsor: 17 June 2022

Draft key constraints, limitations, and assumptions (CLAs):
Constraints: wargaming team will have 10 weeks to design, develop, conduct, analyze and document the wargame
Limitations: the team does not have a subject matter expert on the NATO adversary to advise on wargame design
Assumptions: an adversary subject matter expert will be provided by Atlantic Fleet

Sponsor representative signature
Wargaming team lead signature

EDUCATING DOD WARGAMING SPONSORS

Introduction
Since many of the NPS wargaming sponsors come from the DOD, the authors believe their sponsor engagement protocols are useful for any wargaming team working for a DOD sponsor. Several years ago, when the authors were teaching one of their first MET courses, a student, who was a DOD civilian and former military, was incredulous that the faculty thought spon-
sors did not clearly define the problem. With more than 15–20 years working as uniformed operations research analysts, the authors have had many firsthand encounters with DOD analysis sponsors. DOD sponsors typically are not analysts, so they often have little to no appreciation for the amount of time required to perform analytic studies, including wargames. A former director of the Army’s Training and Doctrine Command Analysis Center was routinely called on a Friday night by their boss, the four-star officer of the command, and asked to “do some runs” of a simulation over the weekend and brief them on Monday. The analysis effort the commander was asking for during a weekend actually represents weeks if not months of preparation and analytic effort.

The authors realize that the NPS wargaming program does not provide a venue that can answer every wargaming requirement across the DOD. Large and lengthy wargames are not something that can easily be accomplished with the current NPS wargaming model that relies on students with an 11-week timeline. However, the authors are confident that the sponsor education and engagement processes outlined here will serve any DOD wargaming enterprise well. As they have taught wargaming across DOD organizations through the Mobile Education Team courses and workshops, the authors have had a chance to engage those organizations to learn of their unique wargaming requirements, their current wargaming models and practices, and the wargaming challenges that they face. NPS graduates often reach back to NPS when they encounter wargaming challenges in their assignments, so the authors find themselves involved in many DOD organizations’ wargaming enterprises either as ad hoc advisors or under more formal arrangements, such as bringing a MET to a DOD organization to build a resident cadre of wargaming expertise. The authors’ observations and recommendations that follow are based on their interactions with DOD sponsors outside of the NPS wargaming activities.
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WARGAMING IMPROVEMENT REQUIREMENTS

One area that needs improvement is the availability of educated wargamers. Unfortunately, because of the Cold War and other factors, there are very few wargamers to be found in the DOD today, so senior leaders cannot rely on their subordinates to provide the command with wargaming expertise. Some combatant commands have hired a few contractors, typically retired officers, as the command’s sole wargaming expert. It has been the authors’ experience that the wargaming knowledge of these contractors can vary greatly. Even if they are expert wargamers, there are too few of them to ensure a robust, relevant wargame is developed and conducted. Until the DOD professional military education system educates officers on wargaming creation, commands will need to bring in wargaming education teams to educate a cadre of wargamers for the command. This may well be a recurring requirement as active duty wargamers will rotate in and out of the command. Every major staff element in a combatant command should have at least two wargamers who can represent the staff section in the design and execution of a major wargame. Senior leaders need to inventory their current cadre of wargamers and act to ensure their organization has a sufficient number of proficient wargamers and a resourced wargaming education plan to ensure wargaming proficiency is maintained.

Because of this lack of resident wargaming expertise, many commands have outsourced some of their wargaming requirements to external organizations. Several of these organizations do conduct quality wargames; however, they are also expensive, and these wargames take time and planning. Relying on outsiders for an organization’s routine wargaming requirements should really be seen as a stop-gap measure until an organization can develop a robust and responsive in-house wargaming capability.

During times when DOD combatant commands were flush with contingency funds, it was common practice to hire outside organizations to design and conduct wargames on be-
half of the command. However, if senior leaders lack the knowledge to design and conduct relevant wargames, it is difficult if not impossible for those leaders to supervise the design of quality wargames by others, whether outside organizations or internal ad hoc wargaming teams formed for specific wargaming requirements. Senior leaders need to be able to conduct quality control supervision of outside organizations that are designing wargames for the command.

Wargaming sponsors sometimes have no idea what resources are required to produce a quality wargame. This can be especially problematic when sponsors task their staff to produce wargaming results within a week of a wargaming tasking because that is all the time they had been given. The old phrase, “if you want it bad, you will get it bad,” comes to mind here.

Senior leaders need to understand what they need from a wargame, and how much time a wargame will take to produce what they need.

Often sponsors have a clear understanding of the problem, but they struggle to clearly communicate it to others. Sometimes they do not have a clear understanding of the problem, and need others to help them converge on a clearly defined problem statement. Staff officers and integrated product team (IPT) leads can be their own worst enemies in that they sometimes hear a vague or poorly communicated problem from a sponsor and instead of reengaging the sponsor to clarify the problem definition, they reimagine the problem into something that they know how to address and rush off to begin a staff effort that, in the end, will not address the problem the sponsor really needed help with. The sponsor engagement process outlined in *The Craft of Wargaming* needs to be used here, and the senior leaders need to embrace, encourage, and plan for this sponsor engagement process instead of forcing the staff officers or IPT leads to beg for more senior leader guidance.

The above-mentioned challenges all impact the planning process of major commands, such as combatant commands.
Today’s senior leaders need to heed the advice of general of the Army Dwight D. Eisenhower: “Plans are worthless, but planning is everything.” Eisenhower understood that winning battles required warfighters to engage each other and build a shared vision and knowledge of the battlespace, not blow the dust off of a sheaf of papers and hope that the planners who produced the documents were able to anticipate the risks and the contingencies the leaders would need to execute once the battle began. Today, combatant commands focus on finishing contingency plans as quickly and as painlessly as possible, and the authors’ experience has been that the wargaming portion of COA development is often accomplished hurriedly and with little rigor if it is even done at all.

Risks to courses of action are not revealed, and contingency plans are not developed for friction points identified in COA wargaming (assuming the wargaming is done at all). One of the authors’ students who graduated and served in a combatant command recommended that the planning process would be much improved by conducting wargaming throughout the planning process, not just in the fourth step where prescribed by Joint Planning (see below). Senior leaders need to ensure that, as a minimum, COA wargaming is done and the risks to the selected COA are documented and contingency plans are developed.

CONCLUSION
The utilization of wargaming across the DOD to gain insights to complex problems and issues has grown over the last several years. Wargaming will continue to be a critical asset for the DOD to address many of the future challenges associated with the growing uncertainty of the future. The authors discussed many of the current difficulties senior leaders have with wargaming and believe that today’s leaders, both civilian and uniformed, need an executive course on wargaming to educate them on how to supervise the design, development, execution, and analysis of wargames. They need to understand what
wargames can do for them and when wargames are not an appropriate tool. They also need to understand what the current challenges are to designing and executing useful wargames, and how they can respond to these challenges.

Sponsor education will always be required, and organizations that do wargaming must take on this responsibility to produce successful, relevant wargames for their sponsors. The techniques the authors have discussed above can be used to outline a sponsor education syllabus to develop a sponsor engagement protocol or program for a wargaming organization.