Forging Wargamers

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Forging Wargamers: A Framework for Professional Military Education.

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INTRODUCTION
The Department of Defense (DOD) relies on wargaming for both analytical and operational outcomes. Wargames offer a low-cost, low-risk way to educate warfighters on tactics, strategies, and operational concepts to prime their thinking for future battlefields. Additionally, they offer a means to identify and test possible outcomes of new policies or doctrinal changes.¹ While wargaming has been a practice for centuries, it is experiencing a resurgence in popularity and importance among the military Services and is being considered more broadly as a vital part of military education. In 2015, Secretary of the Navy Raymond E. Mabus noted that wargaming is an “invaluable method” for warfighters to test new ideas in a low-risk environment and ordered the creation of a plan to increase wargaming education and build communities of interest.² Marine Corps Commandant General David H. Berger affirmed this when he noted in his Commandant’s Planning Guidance that wargaming was essential to “practice . . . decision-making against a thinking enemy.”³ Chief of staff of the Air Force General Charles Q. Brown recognizes that wargames are essential to achieving his directive to “accelerate change” in the face of a changing

global strategic environment where U.S. dominance is not assured.\(^4\) The assertions of the various Services are codified in the Joint Chief’s guidance on professional military education (PME), which directs that wargames be integrated across military curricula.\(^5\)

Yet, despite the asserted importance of wargaming to both the intellectual and tactical development of servicemembers, the DOD suffers a dual deficiency when it comes to the application of wargaming. First, servicemembers are most often not exposed to wargaming as a part of PME until they are field grade officers, a decade or more into their careers. Second, and relatedly, the DOD has increasingly relied on a cadre of professional civilian wargamers to design, run, and evaluate wargames to answer questions of future warfare. Taken together, these deficiencies create a dearth of wargaming literacy in the tactical levels of military operations (primarily comprised of company grade officers and enlisted servicemembers) and the inability to leverage the cognitive benefits of developing a wargaming mindset that extends beyond the play of the game. The current structure has made wargaming a transactional exercise rather than a cognitive shaping tool that can give the United States a strategic advantage.

Though the current military educational system has not fully embraced the integration of wargaming, military leadership recognizes the importance of wargaming as educational and cognitive development. The Joint Chiefs’ PME guidance recognizes the importance of wargaming not just for the outcomes, but for how the process shapes the intellectual capacity of the force. The introduction states:

There is more to sustaining a competitive advantage than acquiring hardware; we must gain and sustain an

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intellectual overmatch as well. The agility and lethality of the force must be applied appropriately to deter, fight, and win against adversaries who have studied our methods and prepared themselves to offset our longstanding military superiority. This cannot be achieved without substantially enhancing the cognitive capacities of joint warfighters to conceive, design, and implement strategies and campaigns to integrate our capabilities globally, defeat competitors in contests we have not yet imagined, and respond to activity short of armed conflict in domains already being contested.⁶

A route to achieving this “intellectual overmatch” begins with creating a clear pipeline for wargaming early in a service-member’s career. This chapter discusses one way to establish this pipeline—integrating wargaming as part of precommissioning education. It begins with a discussion of the current problem—why waiting until field grade PME and the reliance on contracted professional wargamers has created a deficiency in developing a force that is prepared to face a near peer adversary. It then discusses how wargaming can be integrated as part of a holistic and immersive precommissioning education program. Examples from the Service academies and Reserve Officers’ Training Corps (ROTC) programs are used to highlight different ways of achieving this. The discussion focuses on the benefits that can be gleaned from adopting this educational pipeline, as well as some limitations. The conclusion focuses on areas of additional research needed, as well as potential challenges to implementing precommissioning wargaming education more broadly.

⁶ Developing Today’s Joint Officers for Tomorrow’s Way of War, 2.
Crusty Majors and Comfortable Contractors: Why We Need a New Wargaming Pipeline

Though each of the military Services designs their own PME, a generalizable trend is that wargaming is most robustly integrated into curricula during the respective Command and Staff (or equivalent) schools. Officers typically attend Command and Staff between the 10th and 15th years of their careers. Command and Staff schools mark the transition from an officer’s tactical performance and specialization in their given job, to Joint- and strategic-level operations. While these more-senior officers can leverage their tactical experience in wargaming, and the intellectual and cognitive skills learned in wargaming are value-added to staff-level strategic positions, waiting until Command and Staff to begin wargaming education results in three primary problems.

First, by the time officers arrive at Command and Staff, they are already fully indoctrinated into their Service’s—and often their specific community’s—way of thinking. Commissioning education and military occupational schools, in addition to teaching skills, indoctrinate officers into a specific way of thinking. Service culture is ingrained through the transfer of skills and knowledge from one generation to the next, and initial training provides the means for most cultural transmission.7 The strongest cultural development takes place within the first five to seven years of a servicemembers’ career, when they are taught how to act, think, and perform in accordance with the standards required for their particular Service and job within it, as well as develop a sense of the ritualistic and informal practices that give the Services a distinct culture.8 For officers, throughout their company grade years, they are rated and evaluated

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on how well they conform to particular standards and actions, but also their ability obtain “credibility” in their career field. Pathways for promotion in each career are fairly set, and there is little reward for deviating from a given route. By the time students arrive at Command and Staff, they are firmly rooted in their particular culture and way of thinking. Given the rigidity of their early military experience, it is hard to leverage the benefits of nonlinear thinking that wargaming provides at this stage in their careers.

Second, by the time officers begin Command and Staff, they have likely achieved tactical proficiency in their career field. This is done through obtaining qualifications and completing assignments dictated by the requirements set forth in training manuals and the promotion process. The introduction of wargaming after officers have been tactically focused to achieve professional credibility results in it being seen as an add-on educational tool, which is useful in classroom settings to teach new skills, yet not fully integrated into career progressions. A consequence of this is that wargaming is stovepiped in military educational institutions and not fully integrated into operating forces. While the PME institutions—particularly at the Command and Staff level and higher—have been deliberate about integrating wargaming, it remains elusive in the operating forces. This remains largely true, despite evidence that having continual touch points with the operating forces is essential to reinforce the cognitive benefits of wargaming and to keep the operating forces agile. This is particularly important as service-members are being asked to quickly transition from a focus on counterinsurgency operations to strategic competition and a regional focus from the U.S. Central Command (CENTCOM) area of responsibility to the Indo-Pacific (INDOPACOM).

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10 Jeff Appleget et al., Wargaming at the Naval Postgraduate School (Monterey, CA: Naval Post Graduate School, 2016).
11 Brown and Herbold, “Make It Stick.”
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integration of a wargaming mindset in the operating forces will help with tactical agility.\(^\text{12}\) Because it is introduced so late in an officer’s career and separate from operational requirements, wargaming expertise remains largely segregated from operational implementation. The separation of wargaming from the operational forces has made it seem elusive from much of the operating force, giving it an air of ivory tower status.

Finally, the way Command and Staff education is conducted means that only a fraction of all officers are exposed to wargaming. Due to operational tempo and geographical assignment constraints, online PME is increasingly common. Additionally, Services are increasingly realizing that online PME provides significant cost savings, as servicemembers are not required to move, and can also often accomplish their PME requirements while still in an operational duty status. The Joint Chiefs’ instruction codifies that all PME can be accomplished either online or in the schoolhouse, so the trend toward online education will likely continue or even increase.\(^\text{13}\) While many wargames can be played in a virtual environment, the asynchronous nature of most online PME limits the time that can be dedicated to deliberate wargaming. Additionally, the current benefits of PME-based wargaming have been realized through in-person games.\(^\text{14}\) A continued trend toward online PME will likely further shrink the pool of servicemembers who understand wargaming and further entrench the educational-operational divide.

A consequence of these problems is that the DOD and the military Services are increasingly relying on professional contractors rather than active-duty servicemembers to fulfill their wargaming needs. While professional wargamers have created valuable games for the DOD and specific military Services, rely-

\(^{12}\) Sebastian Bae and Paul Kearney, “Use Wargaming to Sharpen the Tactical Edge,” War Room, 8 March 2021.

\(^{13}\) Developing Today’s Joint Officers for Tomorrow’s Way of War.

\(^{14}\) Brown and Herbold, “Make It Stick”; and Appleget et al., Wargaming at the Naval Postgraduate School.
ing on professionals outside of the military organizations raises concerns as well. Jeff Appleget, Jeff Kline, and Robert Burks note that this has led to the DOD outsourcing the intellectual capital that is built by developing and running wargames.\textsuperscript{15} It is not only technical expertise that they are missing in this regard, but the expertise and insights that come from iterating on a strategic and intellectual level. Professional wargamers are important for their continuity and the deliberate hours they can dedicate to creating, running, and analyzing games. However, as John Curry notes, the way in which professional wargaming as an enterprise has developed, and the way in which professional wargamers are trained, set standards based on past precedent rather than future-looking opportunities.\textsuperscript{16} The relationship between professional wargamers and the DOD further strains their ability to create reactive, just-in-time changes to wargaming scenarios built on lessons learned from the operating forces. The process of creating contracts or project scopes adds an additional lag to the development and implementation of wargames. It also highlights the transactional nature of wargaming, and denies the operators a full understanding of how engaging in games not only can be used to address analytical outcomes, but shape their thinking.

One way to address these problems is to introduce wargaming early in the educational and developmental life of servicemembers. This will not only ensure that a wide range of individual servicemembers are exposed to wargaming—giving the DOD a broader swath of individual personnel capable of meeting their wargaming needs—but also leverage more of the cognitive and intellectual development aspects of wargaming. Wargaming is not just about running simulations or learning history. Especially when used as part of a broader educational curriculum, it develops mental agility and strategic thinking.

\textsuperscript{15} Appleget, Kline, and Burks, “Revamping Wargaming Education for the U.S. Department of Defense.”

skills. From a perspective of developing a talent pipeline for the DOD, it creates the skills to both think creatively about the future fight and fully embrace the principles of joint warfare. Precommissioning education is an ideal place to introduce wargaming to reap these benefits and create broader wargaming literacy among the DOD. This will set the foundation for a career in which officer will continue to build on the principles of wargaming and give the DOD access to a cadre of officers able to think strategically about future problems. It will also allow officers to integrate the cognitive and intellectual principles of wargaming throughout their careers, which will also have benefits for their tactical and operational requirements.

It is worth noting that there is also a benefit to expanding wargaming more deliberately in the enlisted ranks. Major Ian T. Brown and Captain Benjamin M. Herbold note that the fact that enlisted make up a greater percentage of the force in general should be reason enough to focus wargaming on the enlisted ranks. Matthew Reed argues that the demands of the future fight will require a more intellectually agile noncommissioned officer (NCO) core, and that modeling enlisted PME after the current structure for the officer corps (to include the integration of wargaming) is the most effective way to do this. Sebastian Bae and Paul Kearney emphasize that wargaming creates a tactical edge for servicemembers, a skill that would see great benefit in the enlisted ranks. These arguments are important, and increasing the enlisted pipeline for and exposure to wargaming is worthy of much more discussion and policy engagement. However, the focus of this chapter is on the most effective way of growing exposure to wargaming among officers.

**BENEFITS OF A PRECOMMISSIONING DOD PIPELINE**

Though young officers are expected to be focused on tactical

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17 Brown and Herbold, “Make It Stick.”
19 Bae and Kearney, “Use Wargaming to Sharpen the Tactical Edge.”
expertise for the first several years of military service, precommissioning exposure to wargaming has many benefits to the DOD. By introducing wargaming at this early stage in their intellectual and professional development, young officers are developing the cognitive and intellectual curiosity wargaming creates while being indoctrinated into their Service culture. A precommissioning pipeline for wargaming also creates a bigger pool of individuals who are exposed to the principles of wargaming, allowing the DOD to cast a wider net when looking for qualified individuals to build, run, and analyze games. This will overcome and begin to breakdown some of the current stovepipes that exist in the wargaming community, and allow for a more organic transition for servicemembers in and out of wargaming roles. Additionally, most precommissioning education—whether at a Service academy, ROTC, or Officer Candidates School—is in person, providing the ideal environment for achieving the most beneficial wargaming outcomes.

In addition to overcoming some of the deficiencies the current system creates, there are three additional benefits created by a precommissioning wargaming pipeline for the DOD. First, it allows for casting a wider net when wargaming is needed at the Service or Joint level, not just in terms of numbers, but occupational specialties and levels of experience. Exposing young officers to wargaming earlier in their career will create a cadre of company grade officers who are literate in wargaming and can provide different perspectives to Joint- or strategic-level problems. Reaching down into the ranks to those closest to the tactical level can provide additive benefits to more senior-level thinking. During their company grade years, officers are engaged in the tactical level of warfighting. They are the ones integrating new tactics and procedures, integrating new technologies into the battlefield, and implementing new doctrine at the ground level. Their lived experience is just as valuable as the advanced education and strategic thinking that field grade officers bring to wargaming. Having officers under-
stand wargaming early in their career will provide the DOD with better inputs for their games.

Second, wargaming literacy will give the tactical-level operators another tool to “outthink” the adversary. Providing those who are charged with the tactical decisions the tools to think differently about problems is essential in the changing global security environment. Wargaming is as much about cognitive skills as it is the analytical findings. If officers are introduced to wargaming while they are also learning the key functions of their job, they will incorporate principles of complex thinking and outmaneuvering an adversary as part of their primary job. The skills necessary to be effective on the future battlefield are not just tactical, and introducing wargaming early in the career trajectory of officers will ingrain a competitive edge in how they approach the future fight.

And third, introducing wargaming in precommissioning education allows for more diversity in who is part of wargaming. As noted above, advanced PME is becoming increasingly virtual, shrinking the pool of those officers meaningfully exposed to its benefits. Additionally, the DOD Board on Diversity and Inclusion found that there are racial disparities in who is selected for resident advanced PME and top-level schools, the primary sources for receiving wargaming education. Women and racial and ethnic minorities remain underrepresented in resident schools, meaning that white men receive the majority of in-person wargaming experiences.\textsuperscript{20} The wargaming community—both within the military and among professional contractors—has acknowledged this deficit, and recognizes that there are negative repercussions to the fact that 98 percent of professional wargamers are white and male.\textsuperscript{21} Introducing wargaming early will also provide a competitive edge in how they approach the future fight.


gaming in precommissioning education will allow for a greater swath of the military to be part of wargaming discussions. As the military is becoming more diverse, this will create an increasingly diverse pool of wargaming-literate officers to draw from, and the ability to leverage the benefits their diversity brings.  

ADAPTING WARGAMING TO PRECOMMISSIONING EDUCATION: CREATING THE PIPELINE

Creating a wargaming pipeline for the DOD through precommissioning education requires tailoring the wargaming experience to the undergraduate learning environment. Currently, the Service academies and ROTC are experimenting with multiple ways to do this. Though the use of wargaming is different for each, the key principle of immersive education is central to tailoring wargaming education to undergraduate level.

Immersive education focuses on wargaming being integrated throughout the academic curricula as a culminating experiential learning process that creates the basis for a culture of wargaming. This requires addressing some of the unique structural challenges of precommissioning education that make the traditional wargaming educational model ineffective. Indeed, it would be difficult to produce technical or tactical experts given the constraints of precommissioning education. However, there is an opportunity for an intellectual mindset that is rooted in the principles of wargaming. Before examples of immer-

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23 The military academies are increasingly relying on wargaming both for pedagogical purposes and to track undergraduate students’ understanding of the principles of game design. These include classroom activities, immersive wargaming environments, technologically advanced modeling and simulation, and design competitions. For examples of what the academies are doing see: “West Point Simulation Center,” U.S. Military Academy, accessed 30 March 2022; “USNA Museum, History Department Establish Naval History Wargaming Laboratory,” USNA News Center, 5 August 2020; and “Institute for Future Conflict,” U.S. Air Force Academy, accessed 30 March 2022.
sive education are discussed, it is important to briefly discuss the constraints of precommissioning education that must be overcome.

**Constraints of Precommissioning Education**

The two largest constraints in precommissioning education are time and resources. Classes in precommissioning education—whether at a Service academy or ROTC—rarely exceed 60 minutes in length. For traditional tabletop wargames, significantly more time than an hour-long class is required. Students also have unpredictable schedules, shuffling between classes in mathematics, history, English, science, and military studies. Unless enrolled in a gaming-specific class, there are rarely dedicated educational blocks to dive into gaming, and students’ days are so deeply segmented they are likely to forget material between lessons.\(^{24}\) Additionally, the military knowledge base of students in precommissioning education is substantially lower than field-grade PME students. Baseline knowledge about historical battles or campaigns, the structure of military units, or the interactions between parts of the Joint force is minimal.\(^{25}\) To effectively engage in wargaming thus requires quite a bit more preparation on the part of the instructor, further contributing to time constraints. All of this is coupled with the need to balance wargaming with a core undergraduate education.\(^{26}\)

Cost and resourcing constraints also pose a challenge. Undergraduate instructors and professors who choose to engage in in-class wargaming have to do so at little to no cost,\(^{24}\) Simon Lei et al., “Forgetting to Remember Important Course Information: Instructors’ Perspectives,” *College Student Journal* 45, no. 1 (2011): 36–47.\(^{25}\) This data is based on the author’s experience teaching at the undergraduate level. As course director of the core military studies class, cadets did not have any knowledge of basic military activities. Since there are precommissioning education requirements on Joint force structure, it is a safe assumption that field-grade students have a higher knowledge base than those who have not had this knowledge.\(^{26}\) While many precommissioning education programs offer electives in wargaming design, where students are able to get a deep dive into the mechanics of games and the ability to analyze outcomes, these classes are not taken by all students and may serve to further stovepipe wargaming if it not more broadly applied.
further constraining what can be done. Precommissioning institutions fund what they see as core and required education. Therefore, so long as wargaming is seen as an ancillary elective, it will suffer from a lack of proper resourcing. Clubs and extracurricular activities have invested in ensuring wargaming opportunities for students; however, the limited nature of these activities does not allow for a true precommissioning pipeline to be established.

Working within these constraints requires a change in mindset about the purpose of wargaming. Rather than using wargames as stand alone, or contained activities, a precommissioning pipeline is best achieved through integrating wargaming throughout the precommissioning educational experience in an immersive and holistic way. This requires viewing wargames not as ends but as a means for achieving learning across the academic disciplines. Though it will take initial coordination across academic departments, it will have positive advantages for the DOD as a whole.

**Overcoming Constraints with the “Combat Snow Globe” Approach**

A framework for thinking about how to overcome the challenges of integrating wargaming into precommissioning education is the “Combat Snow Globe” approach (figure 1). While the various Service academies and ROTC programs approach wargaming in different ways, this approach provides a framework to shift thinking about wargaming from being a discrete operation to a cultural mindset.

The key to developing a wargaming pipeline for the DOD is to develop wargaming-literate young officers who have a truly

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28 The Combat Snow Globe was conceived and designed by Michael Golembesky during the summer of 2020. Golembesky is the operations manager for the multidomain laboratory at the United States Air Force Academy, a Marine Corps combat veteran, and *New York Times* bestselling author.
Joint understanding of warfare as part of the cultural indoctrination into the Service and prior to their tactical instruction. The combat snow globe approach does just that. There are three aspects to this approach that can be adopted to different precommissioning educational institution models. First, a focus on inter- and multidomain operations is essential. All Services have recognized that the future of warfare is Joint and multidomain; and the earlier these concepts are introduced, the more likely they are to be seen as a foundational aspect of warfighting and military culture. Introducing multidomain and Joint operations in a precommissioning environment has the further advantage of bringing together several components of undergraduate education in a holistic way. Second, a focus on
a narrative arc to the wargaming approach is required. Rather than focusing on technical or analytical details, wargaming that also incorporates narrative approaches is essential for creating the cognitive and intellectual benefits that a wargaming education brings to future officers. And finally, a human-centered approach to wargaming can bring the benefits of precommissioning wargaming to the forefront. Putting the student first and foremost in the wargaming scenario teaches decision making, strategic and agile thinking, and creative problem solving—the characteristics that senior DOD leadership is calling for from a wargaming education.

**Multidomain Operations**

Many war games that are used for educational purposes focus on a single domain or campaign. They are often used to teach historical insights or to explore tactical decision making. Single-domain games are also most often used when teaching wargaming to new students focused on wargaming design. There are benefits to gaining expertise in a single domain and the historical expertise of a single campaign. They also provide a good platform for teaching students how to design games. However, single-domain games often require several hours to execute and deep knowledge into one subject area. As noted in constraints, time and tactical/technical expertise required for many historical games or campaign-focused games used at command and staff level PME institutions are challenging to reproduce at the undergraduate or precommissioning level.

Rather than using wargaming to achieve specific tactical outcomes or to train officers in specific operational concepts, precommissioning education can help tie the various educational disciplines that are part of precommissioning education into a multidomain mindset. Undergraduate education is intentionally multidisciplinary. At the Service academies, and in many ROTC programs, this multidisciplinary education is heavily focused on science, technology, engineering, and math (STEM). While the evolving shape of warfare preferences STEM,
to leverage its advantages it must be put into context. Multi-domain wargaming puts specific aspects of STEM education into context. For example, students who are deeply engaged in computer science are able to better understand that cyber is not a standalone domain, but it is also an enabler for operations in traditional land, sea, and air operations. Students engaged in understanding how hypersonic technology works are exposed to how it shapes decision making about both friendly and adversary actions.

Further, an integrated, multidomain approach to wargaming will help address the need for servicemembers capable of defeating a “thinking adversary” the Joint Chiefs note in the PME guidance. For nearly a generation, the U.S. military was engaged in armed conflict with a technologically inferior adversary. Concepts such as air superiority and sea control were not part of the main effort of operations. Additionally, space and cyber capabilities still remain to be tested. The tactics, operational plans, and strategies developed during counterinsurgency operations in Iraq and Afghanistan are not the same as those required to (re)engage with strategic competition. In the coming years, the military will be faced with a technologically matched, if not superior, adversary engaging hybrid warfare strategies that cut across the traditional domains of warfighting. Introducing officers early in their career to how technology plays into strategy and the importance of interdomain operations, will better arm them to address this “thinking adversary.” A deliberate and cohesive multidomain approach to wargaming will also show young officers how the various academic disciplines they are engaged with contribute to the future fight.

Narrative Arc
Given the time and resource constraints of undergraduate precommissioning education, there is little time to play a traditional game. In traditional wargames, the narrative arc unfolds

during the play of the game, or from the historical knowledge of a specific event. Yet, precommissioning education offers other ways of achieving buy-in through broad multidisciplinary engagement of a narrative arc.

As noted in a discussion on multidomain operations, wargaming can weave a thread through different aspects of multidisciplinary education. A unique aspect of precommissioning education—both at the Service academies and ROTC—is that in addition to gaining an academic undergraduate education, there is a deliberate focus on developing military leaders. Stories of warrior heroics, class exemplars, and the use of core values are all common ways used to create leaders of character for the future fight. Including a common story line that can be used throughout a precommissioning education as the basis for an immersive and comprehensive wargame can bring students into a game and overcome some common constraints. A narrative arc as part of the combat snow globe approach does not just focus on playing a linear historical event, but it provides a story more akin to a “choose your own adventure.” It allows students to explore a world and interject their diverse educational backgrounds and personal interests.

An example of this can be seen in Operation Northern Eclipse currently being used at the United States Air Force Academy. This scenario is set five years in the future in the Indo-Pacific region. Cadets are introduced to Operation Northern Eclipse during their core Military and Strategic Studies Course, where they learn principles of Joint operations and operational design. This same scenario is integrated into several other courses. Foreign language courses can use the scenario to show the importance of understanding culture in translation. Astrophysics can show how introducing hypersonic technology changes military operations at the operational and strategic level. This core scenario means that courses are not completed in a vacuum, but brought together to create future officers armed with the ability to think in a multidimensional way about the future of warfighting.
The U.S. Naval Academy (USNA) recently established the Naval Historical Wargaming Laboratory (NHWL), in partnership with the History Department and housed at the USNA Museum. NHWL provides midshipmen with strategic-level gaming to expose future officers to high-level decision making and an understanding of the impact of Joint operations. NHWL provides both for-credit classes and deep immersive experiences that carry throughout a midshipmen’s career. Through a mix of tabletop and digital games, they help midshipmen tie their education together, ultimately creating more deeply immersed officers.30

Employing a narrative arc in precommissioning wargaming education creates an understanding as to how small changes in a given field will impact the overall Joint fight. Using the narrative arc as a base, educators can change one small variable and see its larger impacts. Using a standard narrative arc throughout the educational experiences exposes students to the real impact of change. Bringing a consistent story into precommissioning education will give young officers a baseline to tie seemingly disparate threads together and give them key skills to defeat a thinking adversary.

Human Centered Approach
The human domain is the glass that holds the snow globe approach to immersive education together. While there is much focus on technological innovation of the future fight, wars will still be fought by people. Communication, decision making, and information interpretation are the key that future warfighters are going to need to meet the demands of the future of strategic competition. While this immersive educational approach focused on the human aspect of warfighting may not provide precommissioning students with the skills to create war games, it reinforces the need for thinking warfighters as the linchpin for the future fight.

30 “USNA Museum, History Department Establish Naval History Wargaming Laboratory.”
An immersive educational approach to wargaming demystifies some of the aspects of practice that often create an artificial barrier to earlier involvement. Through wargaming is encouraged by the chiefs of each of the Services, the chairman, and several combatant commanders, only a small percentage servicemembers actively engage in wargaming. Most of this is focused on senior leaders and emphasis technical skills rather than a holistic educational approach. While there is a dearth of studies on the reason why servicemembers do not actively engage in wargaming, anecdotal evidence suggests that the complexity of several games coupled with a lack of early introduction into wargaming makes servicemembers feel removed from gaming and intimidated to start. This, coupled with the fact that wargaming is not integrated into most career fields, continues to stovepipe wargaming.

The Combat Simulation Lab at West Point is a prime example of a human-centered approach to wargaming. The Combat Simulation Lab places the individual at the center of a virtual world where they can drive the outcomes. The lab is used across different academic and military courses to reinforce the human aspect of lessons cadets learn.

While the Service academies are investing in high-tech facilities, expensive equipment is not essential for achieving a human-focused approach to wargaming. ROTC programs have been experimenting with creating end-of-course exercises (EOCX) that put students in roles that grow with them throughout their ROTC career. Such EOCXs—due to the repeatability of their use—create buy-in from students and reinforce the idea that wargaming can be used for cognitive growth.

The intention of integrating the human domain and draw-

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31 Yuna Huh Wong et al., Next-Generation Wargaming for the U.S. Marine Corps: Recommended Courses of Action (Santa Monica, CA: Rand, 2019), https://doi.org/10.7249/RR2227.
32 For more on the lab’s mission, objectives, and products, see “Combat Simulation Lab,” Westpoint.edu, accessed 7 January 2022.
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ing students in precommissioning education into the wargame experience is not necessarily to make experts in creating wargames as undergraduates, but to expose future officers to the cognitive benefits of a wargaming education, while specifically addressing the critical skills Chairman of the Joint Chiefs of Staff notes as necessary.

THE IMPACT OF A PRECOMMISSIONING PIPELINE

While the various precommissioning institutions have unique requirements, and each Service has a distinct culture that they inculcate future officers into, the principles behind the immersive education combat snow globe approach to creating wargaming literacy is a framework that can help create a pipeline for the DOD of agile thinker-doers.

The purpose of this pipeline is not necessarily to cultivate experts in creating specific games, or even the analytical interpretation or application of specific games, but to leverage the intellectual agility wargaming creates. There are, of course, constraints to implementing such an approach as it requires faculty buy-in and cross-departmental coordination and integration. This is often challenging at the undergraduate level, with the time and resources constraints noted above. Experiences at the Service academies have revealed that faculty often feel that if they add in wargaming, they are being forced to drop something from their syllabi. It also requires faculty to learn the scenarios and mechanics of play, as well as standardizing the experience for cadets as much as possible across a broad swath of instructors.

Additionally, it requires an assessment mechanism to ensure that the intellectual principles of wargaming are being absorbed and integrated. Assessing such an abstract concept is often difficult, as it requires tracking students into their early careers and creating consistent metrics across the Services. Additionally, the diversity of faulty involved in this work raises concerns about the fairness of assessing outcomes. While assessment remains a challenge, there is deliberate work being
done to overcome these hurdles and to create evaluation mechanisms that can ensure that wargaming remains deliberately integrated in precommissioning education.  

The establishment of a precommissioning pipeline, despite these challenges, is essential to create the agile warfighters needed for the future fight. The changes in technology, adversary, and geography that future warfighters are expected to navigate means that they must not only be technically and tactically proficient, but be mentally agile to quickly respond to changing environments. The integration of wargaming with precommissioning education is a necessary tool to do this.

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