IPME

INTERNATIONAL PERSPECTIVES ON MILITARY EDUCATION

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INTERNATIONAL PERSPECTIVES ON MILITARY EDUCATION

Established in 2024, IPME is published annually in multiple languages (English, Spanish, French, and Portuguese), first as a digital article and then at the end of the calendar year as a single print volume. The international military learning community is among the largest and yet least studied educational systems in the world. It employs multidisciplinary scholars at the tops of their fields and educates students who become global security leaders and heads of international armed forces and governments, but we still understand relatively little about it in terms of its unique position within the scholarship of teaching and learning. IPME aims to fill this gap and provide a centralized home for scholarship and reflections on military education in its many forms.

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FROM THE EDITORS

This first issue of *International Perspectives on Military Education* (IPME) is both the culmination and beginning of a long-dreamed of initiative by this editorial team. Brought together by a mutual appreciation for the strategic and tactical implementation of professional military education around the world, we recognized the dearth of scholarly channels through which to share and critique research, practice, and ideas in a cross-cultural manner. Existing avenues did not quite hit the mark: they focused on disciplinary or civilian practices, rather than military applications; they were offered in conference formats, such as the Military Scholarship of Teaching and Learning Forum, rather than journals; they were not available open source; or they focused on only English submissions. After one too many discussions bemoaning the absence of a journal that uniquely focused on teaching and learning across worldwide military education, we decided to found one ourselves at Marine Corps University Press.

This effort is necessary because of the importance of teaching and learning as a field of study in military environments. With so few faculty receiving systematic training in how to teach before entering the classroom, we need strong avenues for sharing best practices to ensure students are educated using evidence-based methods–rather than simply replicating what worked for faculty when they were students. But with most scholarship in teaching and learning focusing on civilian institutions, faculty at military institutions cannot always base their practices on previously existing evidence. Military education differs across ranks, institutions, and countries, creating the need for a greater investment of time and

resources into examining best practices in military learning writ large. IPME is an important step in providing that investment.

Our hope is that this journal will therefore spark conversation, exchange, innovation, and new applications in the broadening world of military education. The four articles in this inaugural volume speak to that goal, having already achieved wide readership and discussion. Teaching and learning are explored across diverse contexts, from military academies to aircraft carriers, and authors ask difficult questions about student learning preferences, multilateral engagement, program assessment tools, and leveraging of "soft skills," among other compelling themes.

In "Wargaming Preferences: How Participating in Educational Wargames Changes Student Preferences on Learning," Amanda Rosen and Lisa Kerr analyze the findings of their research on the *War at Sea* wargame, noting that increases in content knowledge of operational art are matched by an increased student preference for learning via wargames. Experiencing an educational wargame, in other words, makes students more inclined to learn via wargaming in the future compared to more traditional approaches to teaching, suggesting curriculum should consider how and when to include more wargaming.

The second offering, "Leveraging Learning in Operational Environments: Lessons Learned from a Multinational Experience aboard USS *George Washington* during the Southern Seas 2024 Mission" by Lisa Kerr and Jonathan Robinson, shares useful insights into a faculty carrier embark experience, examining the challenges and opportunities of the "human factor" in putting scholarly practice on teaching and learning into the field. Their work speaks to the importance of multilateral engagement and considering how to adapt existing practices in new contexts.

The third article, "Using Crisis Action Planning Exercises to Assess Program Learning Outcomes in Support of Outcomes-Based Military Education," provides a framework for institutional decision making on approaching assessment in the developing world of outcomes-based military education (OBME). Commander Daniel Post and Amanda Rosen examine lessons learned from the implementation of crisis action planning exercise (CAPEX) simulation developed for program assessment at the U.S. Naval War College. Their findings suggest that while such active-learning capstone

experiences have tremendous value, institutions must first address several pressing questions and considerations to ensure successful execution.

Finally, Maroua Cherni and Feten Slimeni's article, "Soft Skills in Favor of Advanced Military Education," fulfills the promise of the journal to expand its global scope. The first three articles all focus on PME practice in the United States; Cherni and Slimeni, however, reflect on successful practices at the Military Academy in Tunisia. Their strategies for using project management, emotional intelligence, and neuro-linguistic programming skills in a North African classroom provide opportunity for greater cross-cultural exchange on military teaching and learning.

MCU Press could not be a better forum for housing these conversations, and we are honored to have IPME's launch coincide with the 250th anniversary of the Marine Corps. We can only hope that the integrity, spirit, and dedication that the Marines are known for will live on in the pages of this journal.

We look forward to hearing your thoughts on these topics and to your future participation as an author, reviewer, or reader. Join the conversation and find us online on our LinkedIn page (https://tinyurl.com/y38oxnp5), at MC UPress on Facebook, MC_UPress on Twitter, and MCUPress on Instagram or contact us via email at MCU_Press@usmcu.edu.

Contributing Editors
Mark D. Hamilton, PhD
Megan J. Hennessey, PhD
Amanda M. Rosen, PhD

WARGAMING PREFERENCES

How Participating in Educational Wargames Changes Student Preferences on Learning

Amanda M. Rosen, PhD, and Lisa Kerr, EdD

Abstract: Educational wargaming has shown its clear value in the classroom, leading to deeper and more long-lasting learning. Yet, it is unclear how students respond to the use of games in the classroom and whether they perceive them to have educational value above and beyond "having fun." This study of the *War at Sea* wargame at the U.S. Naval War College provides evidence that students see wargaming as a valuable learning activity, that they consider it appropriate for the professional military education (PME) environment, and that participating in a wargame makes them more likely to want to learn via wargames in the future. These findings provide evidence in support of the ongoing effort to increase wargaming in PME curriculum, and suggest that early exposure to wargames creates buy-in among students that can be harnessed throughout their careers.

Keywords: wargaming, professional military education, PME, student learning, student perspectives, leader development, *War at Sea*

Wargames are experiencing a renaissance in the educational halls of PME institutions—or as game designer Sebastian J. Bae puts it, they are once again going through a "cycle of rediscovery."[1] During the last 10 years, wargaming has found its way back into

[1] Sebastian J. Bae, "Put Educational Wargaming in the Hands of the Warfighter," *War on the Rocks*, 13 July 2023.

the curriculum and practice of the major staff and war colleges, and even in the Service academies in the form of a wargaming design course at the U.S. Naval Academy. As Bae outlines, the U.S. Army and Marine Corps have heavily invested in these active learning educational tools, and the creation of new commercial platforms and games like *Operational Wargame System* and *Littoral Commander* are getting widespread play in a variety of educational settings. Strategy and policy concur with this development; *Naval Education Strategy 2023* highlights how wargaming "reinforces active, experiential learning" and recommends that Naval University System institutions "more fully integrate wargaming into education programs and curricula."[2]

This rediscovery is not surprising, given the evidence for gaming's effectiveness as an educational activity. Extensive research on active learning exercises like games, wargames, and simulations consistently supports the finding that gaming leads to gains in content knowledge and skills such as negotiation, decision making, and empathy—the tools of strong leadership.[3] Moreover, studies have shown that these gains are deeper and longer lasting than learning gains from traditional educational approaches such as lecture and discussion.[4] For example, Adam Wunische found that while both lectures and simulations led to immediate learning gains, only students participating in a simulation retained their initial knowledge.[5] While more traditional teaching methodologies persist, the re-

[2] *Naval Education Strategy 2023* (Washington, DC: Department of the Navy, 2023), 15.

[3] Michael Fowler, "Wargames as Pedagogical Tools: Using Wargames for Higher Education," *Journal of Political Science Education* (May 2024): 1–20, https://doi.org/10.1080/15512169.2024.2349549; Luba Levin-Banchik, "Learning Goals in Simulations," *International Studies Perspectives* (2023), https://doi.org/10.1093/isp/ekad024; Nick Clark and John A. Scherpereel, "Do Political Science Simulations Promote Knowledge, Engagement, Skills, and Empathy?," *Journal of Political Science Education* 20, no. 1 (2024): 133–52, https://doi.org/10.1080/15512169.2023.2204236; and Paula M. Murray, Aviril Sepulveda, and Jennifer Baird, "Longitudinal Impact of a Poverty Simulation on Healthcare Practitioners' Attitudes towards Poverty," *Journal of Pediatric Nursing* 64 (2022): 24–30, https://doi.org/10.1016/j.pedn.2022.01.016.

[4] Katsuo A. Nishikawa and Joseph Jaeger, "A Computer Simulation Comparing the Incentive Structures of Dictatorships and Democracies," *Journal of Political Science Education* 7, no. 2 (2011): 135–42, https://doi.org/10.1080/15512169.2011.564915.

[5] Adam Wunische, "Lecture versus Simulation: Testing the Long-term Effects," *Journal of Political Science Education* 15, no. 1 (2019): 37–48, https://doi.org/10.1080/15512169.2018.1492416.

search is clear that if we value student learning, wargaming should be a highly used tool in the PME professor's toolbox.

At issue then is not the value of wargames, but whether altering curriculum to include wargames is worth the costs and risks. Such costs range from monetary costs in producing and maintaining game materials; the time it takes faculty to create, train on, execute, and debrief wargames; the loss of other content from the curriculum to accommodate a wargame; and the risks of student pushback against what is still seen as an unconventional approach to learning.[6] Many of these costs will vary based on the curricular pressures of a particular program or institution. In some cases, the *Officer Professional Military Education Policy* (OPMEP) may incentivize faculty to prioritize extensive content areas, leaving no room for anything but the quickest learning techniques; in others, a commercial game like *Blitzkrieg!* or *Root* might eliminate the need for extensive training, material development, or support.[7] One universal risk of adoption, though, is the potential student response. Students may enjoy playing games in the classroom, but they do not always see the educational value of playing games as part of a curriculum.[8] This risk is the focus of this article. Will adult, career officer, PME students recognize the value of games in the classroom?

The answer is more mixed than one might expect. Certainly, military officers are familiar with wargaming and are aware that senior military leaders regularly participate in such games, many of which are run by the Naval War College's wargaming department. Such events are of course taken seriously, but their primary purpose is research, not education. If an individual learns something new by participating in a global game, that is a wonderful byproduct, but not the purpose of the event, which is to produce data to analyze and inform. Furthermore, the sophistication of such games

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[6] Rebecca A. Glazier, "Running Simulations without Ruining Your Life: Simple Ways to Incorporate Active Learning into Your Teaching," *Journal of Political Science Education* 7, no. 4 (2011): 375–93; and Amanda M. Rosen, "The Value of Games and Simulations in the Social Sciences," in *Learning from Each Other: Refining the Practice of Teaching in Higher Education*, ed. Michele Lee Kozimor-King and Jeffrey Chin (Oakland: University of California Press, 2018), 215–27.

[7] *Officer Professional Military Education Policy*, CJCSI 1800.01G (Washington, DC: Joint Chiefs of Staff, 2024).

[8] Michael K. Baranowski and Kimberly A. Weir, "Political Simulations: What We Know, What We Think We Know, and What We Still Need to Know," *Journal of Political Science Education* 11, no. 4 (2015): 391–403, https://doi.org/10.1080/15512169.2015.1065748.

can be a far cry from being asked to play a board game in a class. Students used to learning via lecture and discussion may bring a healthy skepticism as to whether playing a game in class will have serious educational value.

Indeed, studies have shown that students do not always recognize the sources of their own learning. In one study of a Harvard physics class, Louis Deslauriers et al. found that students reported learning less during an active learning activity, when objective measures found that they had actually learned more.[9] Likewise, Shana K. Carpenter, Amber E. Witherby, and Sarah K. Tauber argue that students consistently suffer from "illusions of learning," misjudging the sources of their learning.[10] It is possible that even if students are found to learn more from wargames than traditional teaching techniques, that they do not perceive games as an effective approach to learning.[11]

We are left with three questions to answer. First, do students *want to learn* via educational wargaming? We want to understand whether they prefer to learn via games versus other techniques, particularly after they have engaged in an educational wargaming experience. Second, do students *believe they learn* during wargaming? Regardless of whether they like learning via wargaming, do they view it as an educational experience? Finally, do students view educational wargaming as *an appropriate tool* for the PME classroom? In particular, we want to know whether educational wargaming achieves some of the affective or skill-based objectives instructors set for students, such as creating bonds with their peers and developing leadership skills.

The findings of this article suggest that the answer to all three

[9] Louis Deslauriers et al., "Measuring Actual Learning versus Feeling of Learning in Response to Being Actively Engaged in the Classroom," *Proceedings of the National Academy of Sciences* 116, no. 39 (2019): 19251–57, https://doi.org/10.1073/pnas.1821936116.

[10] Shana K. Carpenter, Amber E. Witherby, and Sarah K. Tauber, "On Students' (Mis)judgments of Learning and Teaching Effectiveness," *Journal of Applied Research in Memory and Cognition* 9, no. 2 (2020): 137–51, https://doi.org/10.1016/j.jarmac.2019.12.009.

[11] In previous work, the authors found that only students who wargamed showed statistically significant increases in knowledge compared to their counterparts who did not wargame. See Amanda M. Rosen and Lisa Kerr, "Wargaming for Learning: How Educational Gaming Supports Student Learning and Perspectives," *Journal of Political Science Education* 20, no. 2 (2024): 318–35, https://doi.org/10.1080/15512169.2024.2304769. The current article is a direct follow-up to this work, which examined objective measures of learning in *War at Sea*.

questions is yes. Through a study of students participating in the Naval War College's *War at Sea* wargame, used in the Joint Military Operations (JMO) Department to teach concepts of operational art, the authors found that students are fully aware of and appreciate the learning value of educational wargaming. This recognition means that faculty may not face student resistance to adopting this learning technique—and also presents the opportunity to create future wargamers who could make enthusiastic contributions to the analytical wargames that are central to naval research and planning.

Methodology

The *War at Sea* game is a fertile ground for exploring these questions on student learning preferences. *War at Sea* is a bespoke game designed to teach maritime operational art. Its use in the JMO classroom dates to 2018, and along with the *Operational Wargame Series* (OWS), is the main platform for educational gaming in the department.[12] It is a turn-based tabletop game adaptable to many scenarios; in the current study, the authors focused on the Battle of Leyte Gulf and Falkland Islands (Malvinas) scenarios that are used during the operational art content block. During the game, students are divided into blue and red teams and charged with designing and carrying out an operational plan to achieve victory for their forces. Each turn, they plan how to move their units, conduct surveillance and reconnaissance, and fire on enemy units. A team of facilitators and umpires adjudicate the moves, reveal the results, and oversee battles, whether planned or due to tripover engagements. Through making decisions based on constantly incoming but incomplete information, students experience firsthand the challenges of enacting an operational plan to achieve strategic objectives. The planning, gameplay, and debriefing for *War at Sea* typically takes two additional seminars (six hours) above and beyond the traditional case study of the conflicts being explored.[13]

The authors' previous publication on *War at Sea* compared student responses to objective test questions on the Leyte Gulf case,

[12] Students playing OWS were included in this study, but responded in too low numbers to allow for comparison of experiences between OWS and *War at Sea* students.

[13] For more details on *War at Sea*, please see Rosen and Kerr, "Wargaming for Learning."

finding a statistically significant number of students demonstrated higher levels of learning after wargaming compared to both their prewargaming selves and their nonwargaming peers. Building on that, and the issues addressed above, this part of the study focuses less on student knowledge and more on their learning preferences; that is, whether they see wargaming as an appropriate activity that increased their learning and their desire to learn via wargaming. This results in three hypotheses to assess:

> *H1: Students will increase their preference for learning via wargaming after participating in an educational wargame.*
> *H2: Students are more likely to recognize the learning value of wargames after participating in War at Sea compared to before.*
> *H3: After participating in a wargame, students are more likely to view wargaming as an appropriate and valuable educational activity.*

To test these hypotheses, the authors used data gathered during a quasi-experiment at the Naval War College in the JMO Department.[14] In 2021–23, faculty in both the intermediate leader (ILC) and senior leader (SLC) courses were able to choose whether to incorporate a wargame into the content block on operational art. About one-half of the 17 seminars chose to do so, allowing for a natural experiment to compare students in wargaming seminars to those in seminars that relied solely on more traditional methods such as readings, lectures, and seminar discussions.[15] The authors surveyed students on their learning preferences prior to the start of the content block at the beginning of their course, and then again after completing their operational art content block. Some questions about learning preferences were asked on both surveys, allowing a longitudinal comparison, whereas others—mostly those about the impact of the wargame—were

[14] This study received institutional review board (IRB) approval, NWC.2021.0002-AM02-EM1-A, from the IRB at the Naval Postgraduate School, Monterey, CA.
[15] The inability of the research team to randomly assign students to wargaming and nonwargaming groups keeps the project firmly in the quasi-experimental category. Notably, the success of the wargame prompted the department to require all faculty to use either *War at Sea* or OWS in their courses, removing the ability to conduct further quasi-experiments comparing wargaming and nonwargaming students.

asked only of wargaming students once at the completion of their gaming experience.

Specifically, the authors asked students to rank eight different approaches to learning. These learning modalities included course readings, conducting independent research or writing papers, full class discussions, small group discussions within classroom settings, case studies, exercises and activities like wargames, studying for or taking exams, and individual tutorials with faculty. Using one-way analysis of variance (ANOVA), the authors were able to compare students over time and group to see whether participating in a wargame changed student attitudes toward wargaming. In addition, the authors asked them to respond to a series of five-point Likert scale statements about their learning, measuring whether and how they perceived the game to have educational value.

Results

A total of 98 students completed the pre-course survey. Of these, 63 students were in the courses that did not experience the wargame learning activities, and 35 students experienced the wargame learning activities.[16]

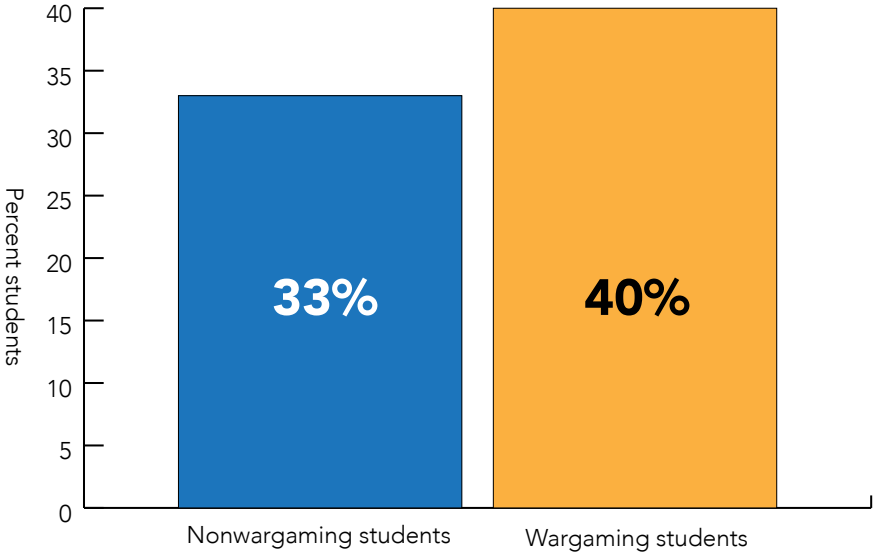
H1: Students will increase their preference for learning via wargaming after participating in an educational wargame

The evidence supports H1. As figure 1 shows, only 21 (33 percent) of the students who were not in the courses that experienced wargaming initially ranked activities like wargaming as one of their top three preferred learning modalities. Similarly, 14 (40 percent) of the students who were in the courses that experienced wargaming ranked activities like wargames as an effective learning modality.

At the completion of the content block, students were invited to complete a post-course survey and rank the same learning modalities previously mentioned. All (35/35) students who completed the pre-course survey that engaged in wargaming in their seminars completed the post-course survey as compared to 43 percent (27/63) of their peers who did not engage in wargaming in

[16] Like many studies of classroom gaming, the n is relatively small, limiting the authors' ability to generalize from the results.

Figure 1. Students' initial perspectives on the effectiveness of wargaming on learning



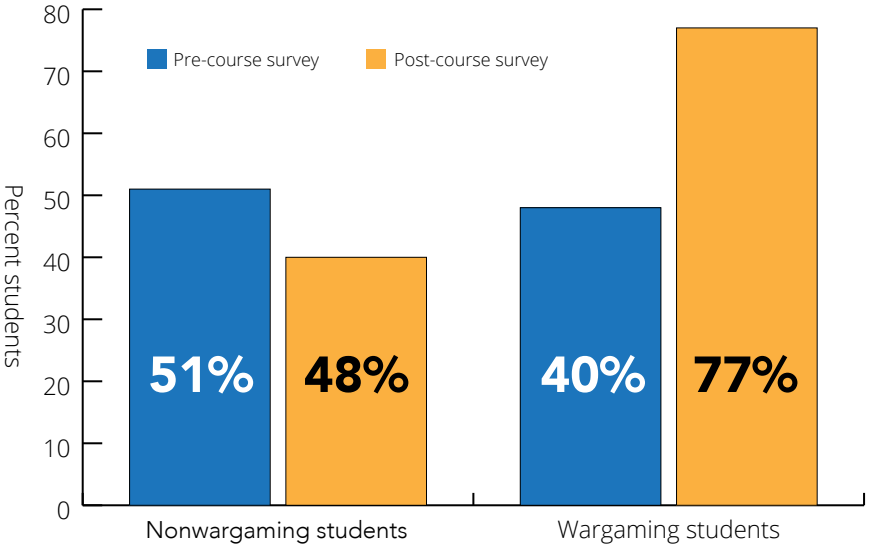
Source: courtesy of the authors, adapted by MCUP.

their seminar.[17] Figure 2 illustrates the differences in how students ranked the perceived effectiveness of wargaming as a learning modality between those who were in a class that incorporated wargaming into the seminar and those whose seminars did not include wargaming.

As figure 2 shows, students who experienced wargaming as a part of their learning activities were more inclined to indicate that they perceive learning activities like wargames as effective learning modalities. While the percentage of students in the classes that did not engage in wargaming did not show much change in their perceptions of the effectiveness of wargames as a learning activity, the percentage of students who experienced wargaming who ranked wargaming as one of the top three most effective learning modal-

[17] There are not statistically significant or practical differences in how the students in the seminars without wargaming ranked the various learning modalities. Therefore, even though less than half of the students in the seminars without wargaming completed the post-course survey, their pre-course survey responses relating to their preferred learning modalities did not differ from their peers who did not complete the survey. The authors are confident that the students who did not experience wargaming in their seminar and completed the post-course survey were representative of the collective that completed the pre-course survey.

Figure 2. Students' post-content block perspectives on the effectiveness of wargaming



Source: courtesy of the authors, adapted by MCUP.

ities nearly doubled to 77 percent. Practically, the data indicate that when students have opportunities to engage in wargaming, they recognize the effectiveness of the modality and become more willing to learn by that modality in the future.

H2: Students are more likely to recognize the learning value of wargames after participating in War at Sea compared to before

H2 receives mixed support. Students are able to recognize the overall learning value of wargames. Table 1 outlines the additional questions that wargaming students were asked, in the form of statements they rated from strongly agree (5) to strongly disagree (1) on a 5-point Likert scale. In all cases, the mean and modal responses indicate strong agreement with the items measuring student self-assessment of learning. Students report better understanding of course concepts post-wargame (4.4) as well as improvements in their problem solving, adaptation, and decision making (4.5) and analytical (4.4) skills. Students also report an increased ability to derive operational lessons (4.2) and the importance of having operational plans (4.3). Finally, students reported that the wargame gave them a stronger appreciation for the constraints Japan was

Table 1. Students' perspectives about wargaming benefits

Prompt: Please indicate how strongly you agree or disagree with the following statements:		
	Mean	**Mode**
I found the wargame(s) enjoyable and/or engaging.	4.6	5
Overall, I think wargaming is a beneficial tool for learning in this course.	4.5	5
Participating in the wargame has increased the connection I feel with other students in my seminar.	4.4	5
I understand course concepts and theories better after applying them in the wargame setting than I did immediately following the reading, lecture, and seminar on these topics.	4.4	5
My perspectives and my ability to analyze, evaluate, and critique the historical studies of the Philippines campaign and/or Falkland Islands (Malvinas) was enhanced or changed as a direct result of playing the wargame.	4.4	5
My perception on the importance of creating and executing an operational plan to the outcome of the Leyte Gulf battle and/or Falkland Islands (Malvinas) was enhanced or changed as a direct result of playing the wargame.	4.3	5
The tactile nature of a wargame (standing around a physical map, moving and throwing dice) is an essential component to its success.	4.2	5
Participating in the wargame has improved my skills in problem solving, adaptation, and decision making.	4.2	5
My ability to derive operational lessons was enhanced or changed as a direct result of playing the wargame.	4.2	5
My opinion of the strength of Japan's operational plan changed after preparing for and participating in the Leyte Gulf wargame.	4	4
Mistakes and miscalculations made by my team assisted my learning more than our successes.	3.9	5
I have already seen or discussed ways in which the wargame experience of course theories and concepts will have an impact on my working life outside of the NWC.	3.8	4
I prefer a fully digital wargame like OWS than a table-top dice game like *War at Sea*.	2.3	1
The wargame had little impact on my overall learning of the course concepts and theories we studied in the lesson.	1.6	1
The wargame is not worth the time it takes to learn and play; I would prefer to spend that time on other content.	1.5	1
Having experienced wargaming at NWC, I would have preferred to learn this material using the more traditional lecture and seminar discussion methods only.	1.5	1

Source: courtesy of the authors, adapted by MCUP.

WARGAMING PREFERENCES

Table 2. Students' perspectives on the learning value of wargaming experience components

Wargame component	Median	Mode
Wargame preparation (writing plans, pregame planning)	1.9	1
Playing the wargame	1.6	1
Debriefing the wargame	2.5	3

Source: courtesy of the authors, adapted by MCUP.

under during the Philippines campaign (4.0), a nuance that faculty had anecdotally reported had gone overlooked prior to the wargame.

However, while students recognize that wargaming increased their learning, their perceptions on the reasons why they learned does not match expectations. Students were asked to rank in order of how effective each component of the wargaming process—the preparation, gameplay, and debriefing phases—was for their own learning. Table 2 shows that students ranked playing the wargame as the most important for their learning, followed by the preparation and then the debriefing. With most of the literature noting that the debriefing is where the learning actually occurs, by providing the time and space to connect gameplay to course concepts and creating meaning-making, this finding indicates that while students know they learned, they do not always recognize the value of the debriefing in the learning process.[18]

H3: After participating in a wargame, students are more likely to view wargaming as an appropriate and valuable educational activity

H3 is also supported. Overall, the student responses support the conclusion above that students appreciate and enjoy wargaming as a learning activity. Students expressed that they enjoyed the game (4.6) and that they perceived that engaging in wargaming was beneficial to their learning in the course (4.5). Additionally, students reported that they increased their sense of connection with

[18] As one anonymous reviewer put it, this may be due to students realizing that the learning in the debriefing depends on the preparation and gameplay phases, and that they may not be aware of the debriefing's power to ensure knowledge transfer and deeper learning occur.

their peers (4.4) and their abilities to understand (4.4) and critique (4.4) course concepts as a result of engaging in the wargaming process. Generally, students perceive that the time spent learning and engaging in the wargame was time well spent and enhanced their learning. Most students, in fact, strongly disagreed with the statement that playing the wargame was a waste of time (1.5) or that they would have preferred to learn via other means (1.5).

Discussion

The topline finding is that students who wargame show a marked increase in their desire to learn via wargaming. A single wargaming experience, then, may be sufficient to change student preferences on how they learn, suggesting that they not only see the clear value in a game like *War at Sea* for learning operational art, but that they are more open to experiential learning in the future.[19] Whereas prior to wargaming, students cited lecture and assigned readings as preferred learning methods, both methods decreased in importance to them after wargaming, and wargaming itself rose substantially in the ranks of preferred techniques for students in the post-test.[20] This suggests that providing an early wargaming experience could reduce student resistance to incorporating other experiential and active learning approaches in the classroom. Fears of such resistance can potentially be easily countered, reducing this risk to building wargaming into curriculum.

It is possible that students may be open to a learning methodology that they do not actually see as adding learning value—but that is not the case here. The author's findings show that students do report learning from their wargaming experience, and combined with previous findings in this study, suggest that there is a match between student perceptions and reality of learning. This brings some good news to those concerned by the Deslauriers et al. study's findings that students do not recognize the sources of their learning, and others that suggest students are overconfident

[19] As with all educational gaming experiences, such an impact is only to be expected if the game is well-aligned with learning objectives, well-executed, and properly debriefed.

[20] Students also cited an increased preference for large and small group discussions, suggesting benefits for the seminar model as well.

of their own learning.[21] However, the authors' findings suggest that students may still misplace the source of their learning, as they were more likely to cite the gameplay and preparation phases than the debrief as the most important parts of their learning. In this case, either the students are incorrect, or scholars should reconsider the value they place on the debrief for experienced graduate students.[22] Regardless, faculty should consider how to improve student awareness of the value of the debrief and ensure their high engagement with that aspect of wargaming, even as institutions work to ensure faculty are prepared to maximize the value of the debrief in connecting gameplay to course concepts and theories.

Finally, those concerned with whether military professionals will see wargaming as an appropriate and valuable way to spend class time should be reassured. Support for gaming as a method of increasing skills, connection with peers, and analyzing decisions all suggest that students see wargaming as a serious activity that can develop their leadership skills. When asked if they would rather learn through other, more accepted techniques, the modal student gave a definitive no.

Conclusion

Combined, these results suggest high levels of student support for the *War at Sea* experience that go beyond the objective learning improvements documented in the authors' previously published work.[23] The results from the quasi-experiment demonstrate that students want to learn through wargames, that they recognize the learning value of such games, and that they see them as appropriate tools for a PME classroom. Most importantly, students participating in a wargame change their preferences for learning via game, developing an increased preference for wargaming as a teaching and learning methodology.

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[21] See, for example, John Dunlosky and Katherine A. Rawson, "Overconfidence Produces Underachievement: Inaccurate Self Evaluations Undermine Students' Learning and Retention," *Learning and Instruction* 22, no. 4 (2012): 271–80, https://doi.org/10.1016/j.learninstruc.2011.08.003.

[22] Notably, none of the phases of the wargame are specifically graded, although their participation is encouraged through a course-long contribution grade. There is no reason to assume, therefore, that students overvalue a graded element more than a nongraded one. It may be valuable to communicate to students the purpose of the debrief and its role in the learning process.

[23] Rosen and Kerr, "Wargaming for Learning."

This suggests three avenues for action and research. First and foremost, the results of this work suggest that PME students should participate in an educational wargame sooner rather than later. As PME institutions add more wargaming to their curriculum in line with educational strategies, student resistance must factor in, and it is clear that an early experience can make students more amenable to learn via wargaming later. Furthermore, developing wargaming skills early may lead to more students choosing this as a focus during their education, setting them up to be experienced and skilled wargamers when they encounter analytical wargames later in their careers. Therefore, PME curricular developers should look for opportunities where wargames can enhance their content, perhaps focusing on low-intensity games that offer many of the benefits of games at lower cost.[24]

Second, researchers should explore the impact of the piecemeal creation and execution of educational wargames in PME. This study suggests that *War at Sea* is successful in its goal to aid student learning—but it was created and executed to meet the needs of a single department at one PME institution. If early educational gaming experiences matter, and officer wargaming skills are valued, then it is incumbent on institutions to create a true ecosystem of wargames that reinforce such learning.[25] Within the Naval War College, even other departments are unfamiliar with wargames used in JMO; across institutions, there is little effort to coordinate educational wargaming either horizontally or vertically. Armed with the knowledge that wargaming is an effective technique supported by students, researchers and curricular developers should consider how to work cross-institutionally to ensure a well-rounded wargaming education for officers throughout their careers.

Third, there is a real need for a greater faculty perspective on wargames. In this article, the authors focused on student preferences and risks, but faculty resistance to wargaming is likely to be as much if not more of a barrier than students. Given that many of the costs of running wargames fall on already-burdened faculty, this is no small risk, and even those faculty who recognize the ed-

[24] Glazier, "Running Simulations without Ruining Your Life."

[25] The authors are grateful to an anonymous reviewer for this point. For more on the ecosystem of wargames and the achieving greater coordination, see Jeremy Sepinsky, "Is It a Wargame? It Doesn't Matter: Rigorous Wargames versus Effective Wargaming," *War on the Rocks*, 24 February 2021.

ucational benefits of wargames may resist their implementation. Thus, PME needs more research on faculty perspectives and preferences on educational wargaming, but also action by institutions to ease these costs and burdens and invest the resources needed to create faculty allies rather than adversaries during the curriculum revision process.

Moving forward, institutions should balance the various benefits, costs, and risks in increasing educational wargaming in the curriculum, and consider the wider ecosystem and future opportunities of students to wargame. While it is clear that wargames can bring great learning gains, and that initial student resistance can be overcome by a positive gaming experience, these benefits are not without cost and risk. As PME institutions look to expand their educational wargaming offerings, they must invest real resources in creating quality games that are aligned with curriculum, provide career-long skill development, and give faculty the time to develop, train, and execute them properly. *War at Sea* is effective at least in part because of such investments; effort will be required to ensure that other efforts achieve similar success.

About the Authors

Dr. Amanda M. Rosen is professor of teaching and learning and interim director of the Writing and Teaching Excellence Centers at the U.S. Naval War College in Newport, RI, where she conducts faculty development, research, curricular development, and assessment on educational gaming and instructional strategies in the security studies and professional military education contexts. She is the author of the 2024 book *Teaching Political Science: A Practical Guide for Instructors* and is the cofounder of the award-winning *Active Learning in Political Science* blog. Her work has appeared in the *Journal of Political Science Education, PS: Political Science & Politics, International Studies Perspectives, Politics & Policy*, and multiple edited volumes.
https://orcid.org/0000-0003-1858-481X

Dr. Lisa Marie Kerr is an associate professor in the College of Leadership and Ethics at the U.S. Naval War College, where she contributes to the graduate degree program and facilitates executive leader development for the U.S. Navy. Her current research agenda focuses on learning effectiveness for leader development in professional military education settings, human factors in systems thinking, and holistic wellness for optimal

performance and warfighter readiness. Kerr is a career educator dedicated to supporting and challenging leaders as they advance into positions that address more dynamic, complex, and ambiguous problems.
https://orcid.org/0009-0002-9081-7462

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LEVERAGING LEARNING IN OPERATIONAL ENVIRONMENTS

Lessons Learned from a Multinational Experience aboard USS *George Washington* during the Southern Seas 2024 Mission

Lisa M. Kerr, EdD, and Jonathan P. Robinson

Abstract: Professional military education (PME) serves to prepare individuals and teams to promote peace, deter aggression, lead in times of crisis, and prepare to adapt with purpose in volatile, uncertain, complex, and ambiguous circumstances. Contemporary geopolitical conditions require global leaders to reinforce relations with allies and partners. PME is a platform on which multinational relationships and interoperability can develop and be strengthened. This article explores the roles of human factors in effective PME among a multinational cohort of military officers learning in an operational environment during the Southern Seas 2024 mission to advance partnerships and interoperability. Outcomes reported describe adult development and education methods that foster learning while attending to human factors that improve leader and team development among mid-career professional military officers in operational environments—the exact real-world environment in which PME graduates need to be prepared to excel, collaborate, and lead to win.

Keywords: professional military education, PME, adult learning, multinational engagement, embarked international staff, interoperability, human elements, leader development

Introduction

As expressed by Admiral Arleigh A. Burke in 1960, "most important among peoples or among nations or among navies is friends."[1] The spirit of the former U.S. Navy Chief of Naval Operations (1955–61) sentiments is actualized annually among students attending U.S. and international professional military education (PME) graduate programs such as at the U.S. Naval War College (USNWC) in Newport, Rhode Island, or the Armada de Chile Acadamia de Guerra Naval in Valparaiso, Chile. While these institutions foster vital professional relationships among officers of multiple nations, they do so in safe academic settings where students study a range of topics related to improving understanding of the practical and theoretical concepts of war. Imagine how future generations of military leaders would benefit from developing multinational relationships while learning in real-time low-risk operational environments. This article examines the development, delivery, and noted benefits of facilitating education in an operational environment that strengthened professional relationships designed to improve integration in preparation for real-world missions. Instructional teams from USNWC facilitated learning among a cohort of two dozen mid-career naval officers from 11 countries aboard the USS *George Washington* (CVN 73) as it circumnavigated South America as part of U.S. Naval Forces Southern Command's 10th Southern Seas mission.[2]

Even though there have been numerous research efforts exploring how to strengthen interoperability efforts with allies and partners, from focusing on policy level debates, tactical procedures and processes, exploring specific case studies, or detailing data collected on specific weapons systems during multinational exercises, few studies have explored the human element of supporting interoperability through education, especially in operational settings.[3] Specifically, there is a paucity of guidance related to the importance of using education to set the conditions and facilitate team formation designed to foster the trust required for mul-

[1] *NSC Student Handbook* (Newport, RI: U.S. Naval War College, 2021), 18.
[2] "Southern Seas 2024," Southcom.mil, accessed 25 September 2024.
[3] Kenneth Gause et al., *U.S. Navy Interoperability with Its High-End Allies* (Alexandria, VA: Center for Naval Analyses, 2000); Commander, Task Force 67 Public Affairs, "U.S. Navy Advances Interoperability with Search and Rescue System of the Republic of Cyprus," press release, 20 December 2024; and "Navy Interoperability: Making Weapons Work as One," CNA.com, accessed 14 September 2024.

tinational interoperability at sea. This article's purpose is to report lessons learned and the associated implications from the development and implementation of an intensive week-long curriculum to a multinational cohort of mid-career military officers while in an operational sea environment. The article will highlight effective practices that foster learning among a cohort of multinational military officers, the importance to attend to human factors when setting conditions for learning, the challenges of facilitating learning during a mission, and sharing lessons learned for educators that may be applied throughout graduate PME programs. Furthermore, this article demonstrates that PME can successfully incorporate more opportunities within low-risk high-tempo operational environments that benefit officer learning and the development of trusting relationships among international and Joint Service officers.

Methods

Instructional Approach

In May 2024, a USNWC instructional team contributed to the development of multinational professional bonds among 22 rising leaders from 11 navies, taking PME into a real-world environment aboard the USS *George Washington* (CVN 73). The initial USNWC instructional team included an associate professor from the College of Maritime Operational Warfare contributing expertise in naval and Joint planning processes, a second associate professor representing the College of Leadership and Ethics with expertise in the scholarship of teaching and learning as well as team leader development, a government contractor with extensive experience in multinational civilian-military cooperation environments and table-top exercise facilitation, and an active-duty Chilean Navy officer serving as a USNWC visiting international fellow who contributed contemporary operational and international perspectives from a non-U.S. perspective. The instructional team developed and delivered the weeklong intensive curriculum during the first week of Southern Seas 2024, while the instructors and the embarked international staff (EIS) cohort transitioned aboard the USS *George Washington*. Foundational to the delivery of the curriculum was the team's intent to honor Admiral Burke's legacy by fostering friendships through maritime engagements and naval diplomacy with partners and allies from around the world . . . while at sea.

While circumnavigating South America for redeployment in Japan, the cohort of multinational officers convened as an EIS as a prominent part of the U.S. Naval Forces Southern Command Southern Seas 2024 mission. The mission aimed to enhance capability, improve interoperability, and strengthen maritime partnerships with several partner nations in the region.[4] The USNWC's team of civilian and active-duty military PME professionals worked alongside Destroyer Squadron 40 personnel and the EIS to support Rear Admiral James A. Aiken's guidance for the mission to "strengthen maritime partnerships and build trust with our partners in the region."[5] The USNWC instructional team cruised onboard the *George Washington* for five days, facilitating education on team formation, navy planning process fundamentals, and interactive classroom table-top exercises to the EIS to enable the development of integration among the embarked international partners and U.S. officers for remainder of the mission.

Prior to embarking on *George Washington*, using backward design curricular development processes, the instructional team scaffolded interactive learning activities designed for adult learners that required critical thinking, fostered self-awareness through vertical development, and integrated leader competency application.[6] Because the learners were accomplished military leaders, instructors layered best practices in adult education with Benjamin S. Bloom and Dee L. Fink's learning taxonomies into the lessons to leverage and build upon their varied professional experiences.[7] Table 1 depicts the educational theories foundational to and embedded within the instructional team's curriculum development and delivery processes. Specifically, the significant experiential learning activities were epistemologically grounded in constructivism and

[4] "Southern Seas 2024."

[5] "U.S. 4th Fleet Announces Southern Seas 2024 Deployment," Southcom.mil, 6 April 2024.

[6] Ralph Winfred Tyler, *Basic Principles of Curriculum and Instruction* (Chicago: University of Chicago Press, 1949); and Grant Wiggins and Jay McTighe, *Understanding by Design*, 2d ed. (Alexandria, VA: Association for Supervision and Curriculum Development, 2005).

[7] Benjamin S. Bloom, *Taxonomy of Educational Objectives: The Classification of Educational Goals*, vol. 1, *Handbook I: Cognitive Domain* (New York: David McKay, 1956); Lorin W. Anderson and David R. Krathwohl, eds., *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* (New York: Longman, 2001); and Dee L. Fink, *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses* (San Francisco, CA: Jossey-Bass, 2003).

Table 1. Instruction, learning, and development frameworks applied

Theory	Explained	Content*
Bloom's taxonomy	Introduced by Bloom, it is a hierarchical and linear educational learning objective classification system by complexity and specificity.	Framing and concept presented
Constructionism	Introduced by Papert, it focuses on adult learning through creating tangible artifacts.	Framing
Constructivism	An epistemology expressed in scholarship by Piaget and Vygotsky that purports that knowledge is contextually created within and by interacting with a society and its people.	Framing
Experiential learning	Seminal works by Dewey and expanded by Kolb suggest that reflecting on specific experiences fosters deep learning.	Framing and concept presented
Fink's taxonomy	Introduced by Fink, it is a holistic multidimensional learning process achieved through significant learning experiences that fosters intellectual, emotional, interpersonal, and lifelong learning skills.	Framing
Tuckman's team development	Tuckman theorized that small groups transition through specific behavioral stages (forming, storming, norming, performing, adjourning) as they develop in high-performing teams.	Framing and concept presented
Vertical development	An adult development model that expresses progressive stages of mental complexity associated with increasing personal and professional capacities.	Framing and concept presented

* To advance the participants' understanding, focus on, and attainment of desired outcomes, the content components of instructional, learning, and development theories were presented to them as part of the interactive lessons. Some theories were only used by the instructional team to inform and frame the developmental curriculum.

Sources: Benjamin S. Bloom, *Taxonomy of Educational Objectives: The Classification of Educational Goals*, vol. 1, *Handbook I: Cognitive Domain* (New York: David McKay, 1956); Seymour A. Papert, *Mindstorms: Children, Computers, and Powerful Ideas* (New York: Basic Books, 1980); Jean Piaget, *The Origins of Intelligence in Children*, trans. Margaret Cook (New York: International Universities Press, 1952); L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes* (Cambridge, MA: Harvard University Press, 1978); John Dewey, *Experience and Education* (New York: Macmillan, 1938); David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice Hall, 1984); Dee L. Fink, *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses* (San Francisco, CA: Jossey-Bass, 2003); B. W. Tuckman, "Developmental Sequence in Small Groups," *Psychological Bulletin* 63, no. 6 (1965): 384–99, https://doi.org/10.1037/h0022100; and Robert Kegan and Lisa Laskow Lahey, *Immunity to Change: How to Overcome It and Unlock the Potential in Yourself and Your Organization* (Boston, MA: Harvard Business Press, 2009).

required learners to apply content presented while creating artifacts that they would collectively reference, evaluate, and update throughout their six weeks on the ship.[8] The expectation was that as the officers collaboratively created shared knowledge and reflected on collective experiences in the operational environment, they would synthesize advanced capacities needed for interoperability throughout their time aboard the *George Washington*.

Table 2 depicts the planned curriculum delivery schedule at-a-glance. The instructional team expected to have protected blocks of time to deliver the scheduled curriculum with meaningful preplanned transitions. However, as discussed in the lessons learned section of this article, the operational context informed the expansion of the instruction to leverage unforeseen significant learning experiences outside the classroom or through unscheduled key leader engagement sessions in the classroom. Even though the instructional team became agile in updating and flexing with the dynamic and real-time nature of the operational sea environment, the first day facilitated awareness, understanding, and opportunities to apply conceptual learning and leader development frameworks on which the following days' lessons were built. Day one content intentionally incorporated human factors associated with learning and leading to foster trust and psychological safety. The initial day of instruction allowed the learners to transition to their new surroundings while developing a shared understanding of the instructors and learners' desired outcomes, which resulted in learner developed artifacts that hung on the ready-room turned classroom walls. These artifacts served as reference points and reminders for learners to apply skills, seek perspectives, and expand capacities throughout the rest of their time aboard *George Washington*, including after the USNWC teaching team had departed.

Responding to the constraints, resources, and activities on the ship, the instructional team reconstructed the course every evening based on functional operations and key leadership engagements. Rather than meeting from 0900 to 1200, breaking for lunch, and

[8] Fink, *Creating Significant Learning* Experiences; L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, ed. Michael Cole et al. (Cambridge, MA: Harvard University Press, 1978); Seymour A. Papert, *Mindstorms: Children, Computers, and Powerful Ideas* (New York: Basic Books, 1980); Bloom, *Taxonomy of Educational Objectives*; and Anderson and Krathwohl, *A Taxonomy for Learning, Teaching, and Assessing*.

Table 2. The planned curriculum delivery schedule

Time	Day 1	Day 2	Day 3	Day 4
0900	Introduction	Reflection	Reflection	Reflection
0930–1100	Team formation Stages and process	Multiculture Communication	HA/DR introduction Academics	HA/DR practical exercise
1100–1200				
Break for Lunch				
1330–1430	Context–CVN and terminology	Operations	Operational functions	Lessons learned
1430–1530		Trust/share		
1530–1600	Reflection	Reflection	Reflection	Now what?

HA/DR = humanitarian assistance and disaster relief; CVN = aircraft carrier (nuclear propulsion).

Source: courtesy of the authors, adapted by MCUP.

reconvening from 1330 to 1600, the instructional team facilitated multinational team development and learning daily from breakfast (0600) through dinner (1800), leveraging times between formal activities for relationship building and coordinating interactive experiential and significant learning opportunities. While disruptive to the educational plan, the opportunities to interact with ship operations were threaded into the learning by facilitating reflective discussions after each experience. The instructional team adapted their structured course processes to facilitate reflections that guided learners to make meaningful connections among the experiences and their professional military responsibilities. Table 3 depicts the integrative nature of the learning experiences that spanned beyond the initial proposed instructional schedule.

As illustrated in table 3, facilitating learning among experienced adults within an operational sea environment affords opportunities to actualize theoretical learning principles, provided the instructional team is agile and able to facilitate timely and meaningful reflection. Because the initial content delivered incorporated human elements associate with leader and team development, the operational environment reinforced the learners' conceptual

Table 3. An example of a typical schedule of the NWC teaching team with curriculum delivery sessions (shaded in blue)

Time	Team member 1	Team member 2	Team member 3	Team member 4
0600	NWC team begins day			
0630	NWC team confirming and adjusting plan for the day over breakfast			
0800	Morning briefing Carrier Strike Group (CSG) staff, raising EIS admin issues			
0815	NWC teaching session		Resolving admin issues for EIS or supporting CSG staff with requests for information (RFIs)	
1100	Official tours of ship or key leader engagement with EIS/NWC			
1200	NWC receive informal feedback from EIS during lunch			
1330	Official tours of ship or key leader engagement with EIS/NWC			
1400	NWC teaching session	Resolving admin issues for EIS or supporting CSG staff with RFIs	NWC teaching session	Resolving admin issues for EIS or supporting CSG staff with RFIs
1600	Reflection period for students/end of NWC teaching			
1615	Afternoon briefing by CSG staff, raising of EIS admin issues			
1630	Personal development (e.g., exploring ship with EIS, discussions with ship personnel for research, exercise time)			
1800	NWC receive informal feedback from EIS during dinner			
1900	NWC team prepare and adjust plan for following day			
2030	NWC team ends day			

Note: periodic interruption in education from the noise of flight operations occurred throughout day.

Source: courtesy of the authors, adapted by MCUP.

understanding and required practical application of the mindset, toolset, and skillset concepts in day one's curriculum. Strategically balancing the experiential and reflective learning sessions within the dynamic operational sea environment expedited individual learning as well as trust and team development, therefore fostering a sense of psychological safety for continued learning among the cohort.

Data Collection and Analysis

Data referenced for this article include written notes from instructor observations, end-of-day reflections, planned curriculum development and transitions, traditional military style post-experience hotwash (debrief) and after action reports, as well as photographs of active learning sessions and the physical operational environment. The authors coordinated reflection synthesis sessions for the instructional team, and triangulated data collected during the instructional time aboard the *George Washington*, the return trip, and two follow-up reflection sessions two and seven weeks after returning from the mission. Furthermore, oral, written, and survey feedback from participants and U.S. Fourth Fleet's EIS support staff were also referenced during data analysis. Participant perspectives gathered through daily feedback and reflection sessions as well as via a survey completed three weeks after the initial week of instruction concluded were also referenced as part of the outcome synthesis and triangulation. Participants completed a nine-question survey providing their perspectives on the content and learning experiences facilitated by the NWC instructional team. The survey included two structured questions with limited response options within a Likert scale and complemented by seven open-ended questions. The survey was written in English and was distributed to the participants via email after the NWC instructional team had left the ship and returned to the college.

Notable Lessons Learned and Implications for Professional Military Education

The authors' observations and experiences aboard USS *George Washington* (CVN 73) reinforce research related to best practices for facilitating learning among military officers and a cohort of multinational students. EIS participants' feedback validated the instructors' observations that interactive culturally aware lessons early in the curriculum were well received and contributed to their learning. Moving beyond well documented best practices in adult education and development previously described, this section of the article elaborates on human factors that contributed to the learning among the multinational cohort aboard a ship engaged in sea operations. Specific human factors including the instructional teams' disposition toward the shared transition they and the learn-

ers experienced during the first week of their embarked experience, the instructors' agility to adapt to the disruptive nature of dynamic ship operations, the importance of trust and team development in setting the conditions for learning to transpire, and the role that the interdisciplinary composition of the instructional team. Moreover, the lessons learned from the instructional experiences and learner feedback may positively implicate success in future opportunities to deliver professional military education among multinational or Joint Service learning cohorts in real-world settings.

Specific human factors that were articulated in feedback, surveys, and observations are described in table 4 in relation to their benefit to the learning experiences of the multinational military officer cohort of learners. Incorporating team, leader, and learning development concepts into the curriculum provided the learners with the knowledge and awareness to identify human factors they perceived as important in their learning experiences. The instructors' transparency with the design of the curriculum to the learners, need/willingness to adapt to frequent lesson disruptions, and the value of fostering team development among the cohort served to demonstrate the disposition they explicitly requested the learners adopt. In addition to delivering content and activities about team, leader, and learning development factors that contribute to a disposition associated with active engagement in meaning making, the instructors demonstrated the desired synthesis of the associated human factor by the way they approached setting the conditions for learning.

Some implications of the human factors expressed in table 4 may inform future professional military education opportunities among multinational cohorts and in operational environments including preparing instructors:

- to transition to the environment they and the learners may experience in a new setting;
- to adapt lesson plans based on expectations and capacities;
- to appreciate benefits of their complementary areas of expertise even if it appears incongruous; and
- to leverage the critical role that trust and team development plays in setting the conditions for learning.

Table 4. Human factors facilitating learning among multinational military officers at sea

Human factor	Relevance to setting learning conditions
Communications	Active listening and observation skills are key. Instructors' responses to verbal and nonverbal feedback, attention to defining baseline concepts, and awareness of cultural considerations
Flexibility/agility	Adapting lesson plans, learning activities, and timing of lessons to leverage opportunities to engage in outside the classroom at sea operations
Guided reflection	Fostering mindfulness and metacognition for meaning making as bookends to the day
Humility and trust	Two distinct factors contributing to developing teams and mutual respect among instructors and learners fostering psychological safety and setting conditions for cognitive development
Interdisciplinary collaboration	The complement of instructors' expertise augmented the process to synthesize the content beyond the sum of the parts
Facilitation	Complementing reflection practices, instructors facilitated shared learning and meaning making in ways that lead to trust and community among the cohort respecting cultural differences

Source: courtesy of the authors, adapted by MCUP.

Transition to the Environment

Even though instructors and learners intentionally considered and prepared for the embarkment transition, they were subject to psychosocial, physical, and cognitive effects. Therefore, instructional team members benefit from observing and monitoring each other, remaining open to feedback about each other's education sessions, and were willing to support and accept support from each other. For some members of the NWC instructional team, embarking on *George Washington* was their first encounter with an operational environment. Other instructors had extensive operational experiences at sea, land, or air. However, every instructor experi-

enced moments of unexpected psychological and cognitive effects during the transition. Feeling uncertain navigating around the ship in sometimes narrow or dark spaces, not confident in interpreting room locations, or encountering sights, sounds, and smells that could generate associations with previous operational missions are examples of moments that the instructors experienced. During a typical after-action meeting, an embarked instructional team member shared, "I expected to be overwhelmed for moments—I mean I'd never been in any operational environment like that. I was not prepared to feel as physically exhausted in the moment. I'm sure the excitement and adrenaline helped, but . . . the struggle was real." Logically, the experiences "made sense" and were manageable; however, because the instructors were human, the physiologic and cognitive acuity effects were undeniable during the time aboard. If conscious of the moments, sharing them with peers fostered deeper team trust. If unconscious of the impacts, yet recognized and respectfully identified by a peer, demonstrating humility and openness to each other's feedback or support also contributed to advanced team trust dynamics.

Instructors' openness with their own real-time transition experiences set the conditions for developing a psychologically safe environment in which the learning cohort may take the risk to share their own transition experiences or concerns in real-time. The process of respecting and attending to the transition experiences of self and the learners initiates a cycle from a which shared sense trust and psychological safety are built, reinforced, and advanced and contributes to a positive learning environment. Practically, living in an unfamiliar environment naturally affects physical, psychosocial, and cognitive acuity that impacted the clarity of facilitation and ease of learning comprehensions. During the initial days aboard the ship, learners and instructors alike were acclimating to new (or lack thereof) sleep, nutrition, and exercise patterns. Therefore, general stress factors known to influence the human ability to focus, think, and learn were abundant among the learners and the instructional team. The human elements associated with reduced intellectual adeptness factors are prevalent during times of transition and will impact the learners' capacity to absorb complex concepts. An instructional team that supports each other and the learning cohort

demonstrates humility and fosters the ability to adjust during the transition in ways to stabilize cognitive acuity and stamina.

Willingness to Adapt and Leverage Interdisciplinary Composition

Tables 2 and 3 depict the differences between the curricular plan the instructors made prior to embarking on the ship and how the plan evolved in response to dynamic nature of the operational environment. Human factors associated with the success of teams' agility were grounded in their disposition toward the experience as a learning opportunity, awareness of each other's areas of expertise, and flexibility and comfort with facilitating guided reflections, small group activities, and full cohort conversations (not always to schedule). Complementing the teaching team's agility was their disposition toward setting baseline conceptual definitions and understanding among a multinational cohort of military officers. The aforementioned factors have several practical implications for instructional teams facilitating learning in operational environments or among multinational military officer cohorts for the future. Intentionally developing an interdisciplinary team of instructors will enhance their ability to leverage the unexpected opportunities that arise due to the tempo and activities in the operational environment. Choosing instructors with varied backgrounds, including operational military experience, expertise in learning, adult development, and human factors associated with transitions, and significant experiences working in multinational environments contributes to their confidence and ability to facilitate and reinforce meaning-making sessions from diverse opportunities that arise due to the dynamic nature of the operational environment.

An interdisciplinary instructional team with a depth of expertise in military, operational, multinational interactions, and adult development factors is well poised to advance the learners' cognitive connections of the real-time operational experiences with the officers' future endeavors. An interdisciplinary instructional team with expertise in facilitating learning and adult development is prepared to attend to the human factors exposed in dynamic environments and rely on each other to contribute their expert perspectives during the learners meaning-making processes, that can reinforce

each team member's sessions.[9] Prior to entering an operational environment with the expectation of facilitating learning, instructional teams should gain an understanding of each other's areas of expertise and prepare how they will communicate when (not if) they need to cofacilitate learning sessions in response to adapting to a disruption within the dynamic operational environment. Instructional teams working with multinational cohorts of learners, or cohorts with aspects of Joint Service functionality, also need to determine how they will approach setting baseline knowledge and clarifying conceptual definitions among learners with different national languages or Service vocabularies.

Intentionally setting baseline knowledge and identifying desired outcomes among the learning cohort serves to level the learners' sense of connection with and purpose for the shared experience. As expressed in a reflection after four weeks embarked, an international officer noted that "it was essential for the EIS-team to establish first 'common ground' to understanding one's culture and barriers and recognize other's had different barriers. We needed to learn about ourselves and support others too. The first weeks made us tired. The [Naval] War College lessons did provide that framework on which EIS could extend cooperation in the weeks to follow. As military we would have established the same result but only after a bit of time; and probably a painful period." Developing a shared language increases the learners' comfort and willingness to contribute, ask questions, or push back against concepts being presented. When working with multicultural cohorts, building a shared language and understanding of desired outcomes reduces inhibitions and encourages engagement among the peers.

Facilitating learning in one language among learners who have various skills and comfort levels with that language is challenging, though this likely is not surprising. The time needed to respectfully and successfully define and acclimate to terms, acronyms, and pliability of concepts across national and Service cultures is substantial. An EIS team member stated, "It took time. . . . I mean a long time to arrange issues. Many tasks or questions seemed lost

[9] *Meaning-making* refers to the cognitive processes through which adults construct new or reconstruct existing knowledge about experiences. For more, see Jack Mezirow, "Perspective Transformation," *Adult Education Quarterly* 28, no. 2 (1978): 100–10, https://doi.org/10.1177/074171367802800202.

in translation. A briefing of 5 minutes with your countrymen took 30–45 minutes in EIS. But the moment we understood that time was required, and we took that time, it all went smoothly." Even among learners from the same country, who speak the same primary language, and affiliated with the same military organization, the definitions of terms are nuanced and sometimes have significantly different meanings among Service-specific communities. Assuming that learning is a primary desired outcome, when working with multicultural or Joint Service cohorts expect that every lesson will take 20–30 percent more time to deliver when compared to traditional academic environments. Furthermore, having breaks and informal sessions where other class members or the teaching team can follow up with the learners is key in reinforcing learning. Indeed, the time during the ship tours, mealtimes, and personal time were key in supporting shared language and learning outside the classroom.

Trust Is Paramount

As alluded to throughout this article, trust is one of the human factors that implicates learning in unfamiliar operational environments and among cohorts of multinational or Joint Service military officers. Explicitly attending to human factors during transitions into unfamiliar dynamic environments sets the groundwork for fostering trust among and between learners and instructors. Developing trusting relationships while setting the conditions for learning in an operational environment may be accomplished by the teaching team incorporating the content about the "what" and "how" human factors that influence learning. When learners can identify and express the psychosocial aspects of what they are experiencing during transitions into the new environment, they develop a sense of community and combat their perceptions of impostor syndrome. As one of the embarked international officers expressed, "When in a multinational team, start with getting to know one another culturally. Every second spent in those first days was worth it." The time and attention focused on getting to know each other during the class sessions contributed to the camaraderie of trust the EIS team relied upon throughout their tour.

Building a foundational understanding of learning and team development processes among multinational military officer learn-

ing cohorts serves three purposes. First, they are learning about human factors that will support their own leader development and future professional success. By the instructors delivering content relevant to the learners and their profession, they experience immediate success and practice skills needed to connect lessons from their embarked experience directly to their personal development. Second, they are prepared with the language and skills needed to monitor and maintain a productive learning environment for their cohort throughout their entire experience, especially after the instructors disembark. Third, it reinforces that their own learning and development are primary desired outcomes. For example, four weeks into the EIS tour an international officer shared that "think[ing], pair[ing], shar[ing] in itself helps you as a leader to reflect and make better decisions, as such, I intend to continue to do this daily." Practicing self-awareness and leadership skills while learning about the roles these same concepts have in team and leader development reinforces their learning while fostering trust within the cohort.

Trust is a pivotal factor in developing and sustaining psychological safety for learners. For the purposes of this article, *psychological safety* refers to a shared learning environment where everyone feels comfortable sharing their authentic selves, ideas, concerns, and questions without fear of embarrassment, punishment, or retribution.[10] A key component to developing psychological safety is providing feedback in a way that the recipient perceives as meaningful, timely, and constructive. Understanding that perception is the experienced reality of the individual(s) receiving feedback, instructors must attend to cultural and practical implications associated with delivering feedback to cohorts of multicultural or Joint Service military officers. While it may initially seem counterintuitive, it was important for the embarked instructors to describe typical manners through which feedback was given in the operational environment aboard *George Washington*. A robust conversation ensued with various explanations of how to give productive feedback from various cultural perspectives among officers in the learning cohort. On the four-week reflection survey, one international of-

[10] Amy C. Edmondson, *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth* (New York: John Wiley & Sons, 2018).

ficer shared that the aspect of the NWC instruction that applied most frequently to enhance their embarked experience thus far was knowing "the different ways of giving feedback." Understanding the preferred and effective ways to give their peers feedback while learning and leading within the EIS cohort contributed to the learning cohorts sense of trust and psychological safety. It was important for members of the EIS learning cohort to experience and prepare to receive and deliver effective feedback while interacting with the sailors operating the ship. According to another member of the cohort, the feedback session "helped me to understand how relationships within different nations work and how they can gather towards coordination and communications." Providing the time and space to practice receiving and delivering feedback in manners that may have been counter to country or Service culture can increase the efficacy of future feedback experiences and build trust between learners and instructors and ultimately positively influence the learners' experiences during interoperation exercises.

When multicultural and Joint Service learners are comfortable contributing to and engaging in learning and interoperation processes with confidence, they will provide and receive feedback that in turn enhances trust and learning among all parties involved. Taking the time to attend to, describe the benefits of, and facilitate the conditions for the cohort to learn about feedback processes in diverse cultures and settings while transitioning into dynamic and multicultural or Joint Service learning spaces fosters trust among learners and instructors. Trust serves as a cornerstone on which psychological safety and productive team dynamics are built. Preparing instructional teams that are tasked with facilitating learning among multicultural or Joint Service learning cohorts, while transitioning into an operational environment with the disposition and skills to attend to human factors that foster trust and psychological safety, is in essence preparing them for success. Trust and psychologically safe environments contribute to instructional teams' willingness and abilities to adapt to the dynamic nature of the operational environment, collaboratively lean into each other's expertise, and set the conditions for the learners to experience the same.

Conclusion

For more than five decades, scholars focusing on pedagogy and

andragogy report that postsecondary faculty, especially graduate faculty are ill-prepared to facilitate learning among adult populations.[11] Specifically, when facilitating learning among multinational cohorts, scholars express the importance for instructors to be mindful of cultural differences that influence learning.[12] Additional research articulates the importance for instructors facilitating learning among military officers to incorporate real-world scenarios into interactive exercises, followed by opportunities for reflective thinking.[13] Therefore, it is important to equip instructors who are tasked to facilitate learning in an operational environment with best practices from adult learning theory that apply in military contexts and an increased awareness of the importance of cultural competencies. For PME faculty who equate lecturing to learning, introducing them to foundational educational theories and frameworks developed for experienced adult populations will support their ability to successfully develop, deliver, and assess the curriculum. Lecturing serves to share knowledge and discuss concepts, yet it is not the most effective means to foster the desired learning, skill acquisition, or mindset needed among military officers preparing to operate in multinational teams and in line with the latest U.S. *Naval Education Strategy* to develop critical and adaptive thinking.[14]

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[11] Such as Jerry G. Gaff, *Toward Faculty Renewal: Advances in Faculty, Instructional, and Organizational Development* (San Francisco, CA: Jossey-Bass, 1975); Ernest L. Boyer, *Scholarship Reconsidered: Priorities of the Professoriate* (Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1990); Robert H. Stapnisky et al., "Are New Faculty Prepared to Teach?: An Examination of Graduate Teaching Preparation Programs in Canada," *Teaching and Teacher Education* 79 (2019): 16–27; and Ann E. Austin and Andrea L. Kornbluh, "Faculty Development in the Changing Academic Landscape: A Call for Evidence-Based and Systematic Approaches," *Journal of Higher Education* 92, no. 3 (2021): 325–46.

[12] Such as Jude Carroll and Janette Ryan, eds., *Teaching International Students: Improving Learning for All* (London: Routledge, 2005); and Joellen E. Coryell et al., "University Teaching in Global Times: Perspectives of Italian University Faculty on Teaching International Graduate Students," *International Journal for the Scholarship of Teaching and Learning* 26, no. 3 (2021): 369–89, https://doi.org/10.1177/1028315321990749.

[13] Matthew Hamilton, *Prioritizing Active Learning in the Classroom* (Fort Leavenworth, KS: Army University Press, 2020); Robert Hoffman, Peter Ward, and Paul Feltovich, "Transforming Athena: Educating Military Officers Through Experiential Learning," *Strategy Bridge*, 2021; and Angelle A. Khachadoorian, Susan L. Steen, and Lauren B. Mackenzie, "Metacognition and the Military Student: Pedagogical Considerations for Teaching Senior Officers in Professional Military Education," *Journal of Military Learning* 3, no. 2 (2020): 19–29.

[14] *Naval Education Strategy 2023* (Washington, DC: Office of the Secretary of the Navy, 2023).

Instead, incorporating interactive lessons that require learners to make meaning of the content while connecting the concepts in ways that require them to apply skills, increases their ability to facilitate learning, foster skills advancement, and encourage growth mindset development to support successful interoperability, even after the instruction team has departed.

The authors' observations and experiences aboard USS *George Washington* align with previous research and highlight key factors that contribute to educating multinational student cohorts in operational environments. Successful instructional teams in the future would be wise to recognize that developing their individual lessons is only one aspect of their preparations. Instructors must also prepare for their own transitions into the dynamic, high-tempo environment. Especially if the learning cohort is also transitioning into the operational space, instructors should prepare to address human factors that implicate learning within a dynamic environment. Similar preparations are needed to respect the cultural and language differences among multinational and Joint Service learner cohorts. A team of instructors with expertise in complementary disciplines who are willing to work to build trust and develop as a team are well positioned to facilitate learning within a dynamic operational environment. Instructors tasked with facilitating learning in operational environments must be prepared to be agile and adapt their lessons in accordance with the operational tempo and activities. Armed with skills to facilitate reflection, instructors can leverage operational activities that might otherwise be perceived as disruptions into meaningful shared experiences through which learners develop skills and build trust. Instructors that value trust as an undercurrent for their success as a team and for developing psychological safety among the learning cohort are well positions to set the conditions for optimal learning now and for the future.

About the Authors

Dr. Lisa Marie Kerr is an associate professor in the College of Leadership and Ethics at the U.S. Naval War College in Newport, RI, where she contributes to the graduate degree program and facilitates executive leader development for the U.S. Navy. Her current research agenda focuses on learning effectiveness for leader development in professional military education settings, human factors in systems thinking, and holistic wellness

for optimal performance and warfighter readiness. Kerr is a career educator dedicated to supporting and challenging leaders as they advance into positions that address more dynamic, complex, and ambiguous problems.
https://orcid.org/0009-0002-9081-7462

Jonathan P. Robinson is a specialist in multinational civilian-military interaction, conflict analysis, and human security. With nearly a decade of experience working in the Middle East, Robinson has collaborated with numerous local, regional, and international humanitarian, civil society, peacebuilding organizations and militaries in complex emergencies and post conflict settings. He is currently a contracted humanitarian operations specialist supporting the U.S. Naval War College's Civilian-Military Humanitarian Response Program and a global fellow with Brown University's Center for Human Rights and Humanitarian Studies. He holds a master's degree in Islamic and Middle Eastern studies from the University of Edinburgh, UK, and an undergraduate degree in archaeology from Durham University, UK.
https://orcid.org/0009-0001-7880-0732

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USING CRISIS ACTION PLANNING EXERCISES TO ASSESS PROGRAM LEARNING OUTCOMES IN SUPPORT OF OUTCOMES-BASED MILITARY EDUCATION

Commander Daniel Post (USN), PhD,
and Amanda M. Rosen, PhD

Abstract: Crisis action planning exercises (CAPEXs) and simulations, as limited forms of wargaming, are increasingly being used in military academic settings to evaluate learning objectives at the individual and program level. While there are reasons to believe that these exercises may be useful tools for programmatic assessment, questions remain about how to determine the conditions under which they should be used for this purpose. This article explores the tradeoffs of using these tools to evaluate program effectiveness and offers a tool to assist assessment designers in deciding when and how to adopt a crisis simulation for program assessment. Using evidence from the CAPEX at the U.S. Naval War College as a case study, the authors argue that using simulations specifically for program assessment requires additional cautions and considerations.

Keywords: crisis action planning exercises, CAPEX, simulations, wargaming, program assessment, professional military education, PME, outcomes-based military education, OBME

Outcomes-based military education (OBME) is now a reality at

U.S.-based professional military education (PME) institutions. No longer can programs claim that their students learned based on showing what is on the syllabus; as Kristin Mulready-Stone, former chair of the Assessment Committee at the Naval War College, outlines, programs must demonstrate students have achieved the stated program learning outcomes (PLO).[1] The burden is now on institutions to conduct program-level assessment and provide evidence of student learning. This movement necessitates important changes, among them the need to find some way to engage in program-level assessment when the focus has traditionally been on course-level assessment. With many other demands limiting the time and energy of faculty, administrators, and students, academia must find high-quality, cost-effective, useful ways of conducting program assessment.

Capstone-style simulations represent a possible solution. Games, simulations, wargames, and crisis experiments are experiencing a renaissance as instructional and experiential activities in the PME classroom. Many professors of strategy and related topics use wargames in the classroom as a primary educational tool for their courses.[2] James D. Fielder of Colorado State University notes the immersive qualities of gaming and their ability to create an alternate reality. From Fielder's perspective, "great games are viscerally lived experiences that mimic the emotions and learning of real events."[3] This is, indeed, the most important claim of wargaming and crisis simulation enthusiasts. In their view, wargames and crisis simulations are particularly engaging, immersive, and emotional in a way that traditional classroom methods such as lectures and seminar discussions simply cannot be. Across political science and security studies, simulations have become a common-

[1] Kristin Mulready-Stone, "A New Form of Accountability in JPME: The Shift to Outcomes-Based Military Education," *Joint Forces Quarterly* 112, no. 1 (2024): 30–38.

[2] On the utility of gaming in the classroom, for example, see Victor Asal and Elizabeth L. Blake, "Creating Simulations for Political Science Education," *Journal of Political Science Education* 2, no. 1 (2006): 1–18, https://doi.org/10.1080/15512160500484119; Mark Harvey, James Fielder, and Ryan Gibb, eds., *Simulations and Games in the Political Science Classroom: Games without Frontiers* (New York: Routledge, 2022), https://doi.org/10.4324/9781003144106; and James Fielder, "Pedagogical Spotlight: Gaming in the Classroom," *Western: Newsletter of the Western Political Science Association* 12, no. 2 (2022).

[3] James D. Fielder, "Reflections on Teaching Wargame Design," *War on the Rocks*, 1 January 2020.

place alternative to traditional teaching modalities such as lecture and discussions, and research consistently shows that they have valuable impacts on learning.[4] As Princeton University's Center for International Security Studies (CISS) Strategic Education Initiative (SEI) points out: "Books, lectures, and discussions can teach a lot about strategic decision making, but even the best classroom cannot replicate the uncertainty, pressure, and friction that decision makers face in the real world."[5] The crisis simulations run by SEI are a prime example of how educators attempt to close the gap between theory and practice and give students practice in "making foreign policy decisions under conditions of strategic and bureaucratic uncertainty." They are particularly useful in teaching and practicing such procedures and skills, as they immerse students in the simulated environment and give participants a chance to "feel" the pressures and intricacies of real-world decision making and crisis action environments.[6] Moreover, they have been found to lead to longer-lasting learning than more traditional approaches such as lecture.[7]

Gaming and crisis simulations are also used as educational tools in numerous other fields such as business, law, and management. For example, Deloitte, a leading professional consulting and advisory firm, utilizes crisis simulations for crisis management training in a variety of business settings.[8] Law professor Shawn Marie Boyne writes about using crisis simulations to enhance decision-making

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[4] See Michael K. Baranowski and Kimberly A. Weir, "Political Simulations: What We Know, What We Think We Know, and What We Still Need to Know," *Journal of Political Science Education* 11, no. 4 (2015): 391–403, https://doi.org/10.1080/15512169.2015.1065748; and Amanda M. Rosen and Lisa Kerr, "Wargaming for Learning: How Educational Gaming Supports Student Learning and Perspectives," *Journal of Political Science Education* 20, no. 2 (2024): 318–35, https://doi.org/10.1080/15512169.2024.2304769.

[5] For information on the Strategic Education Initiative and their crisis simulations, see "Simulations," CISS, Princeton University, accessed 26 September 2024.

[6] John R. Emery, "Moral Choices without Moral Language: 1950s Political-Military Wargaming at the RAND Corporation," *Texas National Security Review* 4, no. 4 (2021): 11–31, http://dx.doi.org/10.26153/tsw/17528.

[7] Adam Wunische, "Lecture versus Simulation: Testing the Long-Term Effects," *Journal of Political Science Education* 15, no. 1 (2018): 37–48, https://doi.org/10.1080/15512169.2018.1492416.

[8] "Perspectives: The Deloitte Perspective," Deloitte, accessed 26 September 2024; and "Making Crisis Simulations Matter," Deloitte, accessed 26 September 2024.

skills in legal settings.[9] Public relations professor Karen Olsen uses simulations to teach communication skills in crises.[10] In each case, the simulated reality of the crisis situation is said to uniquely engage the students and to enhance student learning. Across PME institutions, educational wargaming and table-top exercises are experiencing a renaissance, becoming a mainstream part of the student instructional experience.[11] In some cases, courses are being taught entirely on educational wargaming design, such as the ones at the Naval Academy and Georgetown University, which center on student teams researching, designing, developing, and playtesting an original educational wargame on a topic related to military strategy.[12] Crisis action planning exercises (CAPEX), therefore, have a rich history of use and provide a potential way forward for OBME.

What is newer and understudied is the use of simulations for assessment, rather than instructional or experiential purposes. In their typology of simulations, Nina Kollars and Amanda Rosen divide simulations by their overall purpose: formative or summative. While most simulations tend to be formative—that, is, aimed at developing student knowledge and skills—they can also be used as a summative exercise that evaluates student performance or

[9] Shawn Marie Boyne, "Crisis in the Classroom: Using Simulations to Enhance Decision-Making Skills," *Journal of Legal Education* 62, no. 2 (2012): 311.

[10] K. S. Olson, "Making It Real: Using a Collaborative Simulation to Teach Crisis Communications," *Journal on Excellence in College Teaching* 23, no. 2 (2012): 25–47.

[11] Erik Lin-Greenberg, Reid Pauly, and Jacquelyn Schneider, "Wargaming for Political Science Research," *SSRN Electronic Journal* (2021), https://doi.org/10.2139/ssrn.3676665. See p. 7 for a useful table displaying game characteristics. Some examples of recent work relying on wargame data include: Daniel R. Post, "On the Prospects of Escalating to Deescalate and Limiting Nuclear War: With a Focus on the U.S. Perspective" (PhD diss., Brown University, 2023), https://doi.org/10.26300/x4jy-1j42; Emery, "Moral Choices without Moral Language"; Reid Pauly, "Would U.S. Leaders Push the Button?: Wargames and the Sources of Nuclear Restraint," *International Security* 43, no. 2 (2018): 151–92; Jackie Schneider, "Cyber and Crisis Escalation: Insights from Wargaming" (unpublished paper, Naval War College, 2017); Erik Lin-Greenberg, "Wargame of Drones: Remotely Piloted Aircraft and Crisis Escalation," *SSRN Electronic Journal* (2020), https://dx.doi.org/10.2139/ssrn.3288988; and "The Project on Nuclear Gaming (PoNG)," University of California-Berkeley, accessed 19 November 2024.

[12] Sebastian Bae, "GU Wargaming Society," Basics of Wargaming Course, SEST 560-01, Center for Security Studies, Georgetown University, accessed 28 September 2024.

abilities.[13] While not uncommon in businesses or military training, it is rare to see a simulation used for course assessment in social science education—and even more so for program-level assessment.[14] With little written about the utility of these types of exercises as tools specifically for evaluation and assessment of programs, there is a clear gap that the push for OBME requires us to fill.[15]

To address this gap, this article outlines an initial framework for evaluating when a CAPEX-style simulation is an appropriate tool for program assessment in PME. To begin, the authors analyze the advantages and disadvantages of using simulations for assessment. They then offer a five-question decision tool to guide decision makers as they consider adding a capstone simulation to their institution. The authors then apply the tool to the experience of the U.S. Naval War College in its use of a CAPEX from 2022 to 2024, ultimately concluding that the advantages of this style of program assessment are currently outweighed by the challenges, and that future iterations of the CAPEX need to either improve their alignment to the assessment purpose or to instead refocus entirely on the instructional and experiential benefits of using a simulation as a formative capstone rather than a program assessment tool.

Advantages and Challenges of Crisis-Simulation-Style Assessments

Institutions considering adopting a CAPEX-style simulation for program assessment should carefully weigh several advantages and challenges (table 1). While these activities can offer high authen-

[13] Nina Kollars and Amanda Rosen, "Simulations as Active Assessment?: Typologizing by Purpose and Source," *Journal of Political Science Education* 9, no. 2 (2013): 144–56, https://doi.org/10.1080/15512169.2013.770983.

[14] One example of a simulation being used at the course level is the Capstone Planning Exercise for the Naval War College's Joint Maritime Operations (JMO) Course. For information about the course, see "Joint Maritime Operations," USNWC.edu, accessed 19 November 2024.

[15] By program, the authors refer to master's degree programs or entire Joint professional military education (JPME) curricula, or similar programs, that span multiple courses all geared toward specific qualifications or designations. Programs may be considered academic structures that have the following characteristics: they offer a consistent set of experiences, such as a set of mandatory core courses; they require students to engage with the set of experiences over an extended period of time (usually multiple semesters); and they are intentionally structured to achieve some outcome (or a set of multiple outcomes). List reproduced from Keston H. Fulcher and Caroline O. Prendergast, *Improving Learning at Scale. A How-to Guide for Higher Education* (Sterling, VA: Stylus Publishing, 2021), 5.

Table 1. Advantages and disadvantages of conducting program assessment through CAPEX-style simulations

Advantages	Risks/challenges
• Potential for high authenticity • Immersive environments thoroughly engage students • Simulations can serve as a high-impact, capstone experience • Exercises allow assessors to observe process and skills • Reduce student anxiety	• Requires intensive resources to be effective • Difficult to observe and assess the desired individual-level behaviors • Challenges in designing a simulation that clearly aligns with the intent of assessment

Source: courtesy of the authors, adapted by MCUP.

ticity, engagement, capstone-like environments, and opportunities for assessing hard-to-see processes, all while reducing student anxiety; they also pose costs and risks, notably in time required, difficulty in recording observations, and design alignment. Each of these requires discussion.

Advantages and Benefits of CAPEX-style Assessments

Potential for High Authenticity

When employing outcomes-based assessment, it is critical that skills are explored in an authentic manner.[16] As a Rand report commissioned by the Joint Chiefs of Staff highlights, "measuring student performance using authentic assessments—that is, assessments that simulate real-world applications of desired outcomes—is critical to the successful implementation of OBME."[17] Crisis simulations enable students to assume the roles and positions (or those like them) for which they are being educated and trained to assume, and these "authentic assessments" have been shown to

[16] See *Outcomes-Based Military Education Procedures for Officer Professional Military Education*, Chairman of the Joint Chiefs of Staff Manual (CJCSM) 1810.01 (Washington, DC: Joint Chiefs of Staff, 2022), A-3.

[17] Paul W. Mayberry et al., *Making the Grade: Integration of Joint Professional Military Education and Talent Management in Developing Joint Officers* (Santa Monica, CA: Rand, 2021), https://doi.org/10.7249/RR-A473-1.

improve student performance and skills, particularly in leadership development.[18] This can be done in simulations in a way that is not possible during an exam or written assignment, as the interaction of other human beings and the dynamic environment more closely resemble real-world situations. Though crisis simulations are not the only way to achieve authenticity, many in the field regard them as the best method of emulating the real world.

Immersive Environments Can Thoroughly Engage Students

Engagement is a critical concern during an assessment. If students are checked out, they may not be demonstrating the full range of their knowledge, skills, attitudes, and behaviors, thus rendering the data collected less accurate. Assessments that last multiple hours need to keep student engagement high to increase the likelihood that the results are reliable; otherwise, students assessed at the end of the day may show differences in performance that are not due to their program.

Simulations are engaging in a way that more typical assessment forms are not. It is almost universally argued by wargamers, and generally accepted by most who have experience in gaming and simulations, that these activities are more engaging, interesting, and memorable than traditional classroom activities such as listening to lectures or participating in seminar discussions.[19] There are several reasons for this. First, simulations and games give students a chance to role-play and empathize in a way that other activities do not offer. In effect, they get a chance to wear the shoes of the relevant decision-maker, advisor, or politician. This engages

[18] See, for example, Zahra Sokhanvar, Keyvan Salehi, and Fatemeh Sokhanvar, "Advantages of Authentic Assessment for Improving the Learning Experience and Employability Skills of Higher Education Students: A Systematic Literature Review," *Studies in Educational Evaluation* 70 (2021): 101030, https://doi.org/10.1016/j.stueduc.2021.101030; and Anna Wiewiora and Anetta Kowalkiewicz, "The Role of Authentic Assessment in Developing Authentic Leadership Identity and Competencies," *Assessment & Evaluation in Higher Education* 44, no. 3 (2018): 415–30, https://doi.org/10.1080/02602938.2018.1516730.

[19] See the discussion in Amanda M. Rosen, "The Value of Games and Simulations in the Social Sciences," in *Learning from Each Other: Refining the Practice of Teaching in Higher Education*, ed. Michele Lee Kozimor-King and Jeffrey Chin (Berkeley: University of California Press, 2018), 215–27, https://doi.org/10.1525/9780520969032-018.

the emotions of the participants. As John Emery highlights from an in-depth study of wargaming at Rand, "The capacity for empathy in wargaming comes from being made to feel the weight of decision-making and exercising ethical practical judgment in a simulated environment with a high degree of realism rather than abstraction."[20]

Second, simulations, especially when time constraints are involved, may conjure real stress in the players and participants that, as James Fielder points out "when overcome, reinforces learning through practice and fosters trust amongst the players."[21] In the authors' participation in crisis simulations, they have seen first-hand the immersion players often experience and how when games and simulations wrap up, players are often exhausted, exhilarated, and sometimes feel as though they are coming up from out of a cave or some other alternate reality. For something as important as program assessment, deep student engagement and emotional involvement is certainly a plus and can contribute to stronger demonstrations of program learning outcomes.

Simulations Can Serve as a High-impact, Capstone Experience for Assessment

An end-of-program simulation can serve as a collaborative, capstone experience for students that is valuable for their learning. The American Association of Colleges and Universities notes that such events are "high-impact" practices that can lead to lasting learning for students; that finding is supported by extensive research.[22] These findings focus more on the instructional and experiential benefits of simulations, but there is every reason to expect that those benefits remain even if the purpose of the experience is largely one aimed at assessment. So long as designers balance the demands of creating an immersive simulation with those of an assessment activity, there can be great value in crafting an end-of-program capstone simulation that doubles as a program assess-

[20] Emery, "Moral Choices Without Moral Language."
[21] Fielder, "Reflections on Teaching Wargame Design."
[22] Cindy Kilgo, Jessica Ezell Sheets, and Ernest Pascarella, "The Link between High-impact Practices and Student Learning: Some Longitudinal Evidence," *Higher Education* 69, no. 4 (2015): 509–25, https://doi.org/10.1007/s10734-014-9788-z

ment. This is particularly valuable in programs that have disparate courses where it is not overtly obvious to students how the courses connect to each other. Creating a capstone experience can help students synthesize what they learned from the year, even as assessors gather to observe the learning that has already taken place.

Exercises Allow Assessors to Observe Process and Skills Rather than Just Knowledge

Unlike exams or written assignments, crisis simulations allow assessors to observe the communications and processes taking place as part of the decision-making or other task performance.[23] This makes it possible to study and observe skills related to those processes such as decision-making structures, organizational behaviors, type and frequency of communication, leadership, or any other process-oriented outcome they wish to observe. As an example, in programs designed to enhance strategic decision making in a national security context, assessors will be able to see how individuals and groups organize themselves; see and hear how they compare and contrast various options; observe the adoption of leadership roles and styles; and identify questions and issue areas that arise in discussions—all of which would be much more difficult to observe in other types of assignments. Crisis simulations are most beneficial when the program learning outcome (PLO) under consideration is of the nature of these process-oriented types of skills. As Ellie Bartels, a Rand policy researcher, suggests that "wargames work best when used to explore a problem involving human decision-making in conflict and generate new potential solutions. That makes wargames particularly powerful early in decision-making processes when the nature of a problem is still unclear, and where wargames can suggest new frames or approaches to guide subsequent analysis."[24]

Likewise, assessors will be able to observe and track the important considerations, questions and factors that arise in the group discussions and processes. This is beneficial because in other tasks, such as exams and written assignments, students are less

[23] Elizabeth Bartels, "Getting the Most Out of Your Wargame: Practical Advice for Decision-Makers," *War on the Rocks*, 19 November 2019.
[24] Bartels, "Getting the Most Out of Your Wargame."

likely to address questions or factors not specifically assigned to them as part of the assessment. Such tests tend to focus more on knowledge gained rather than skills or reasoning. In crisis simulations, however, it is possible to use the simulation to identify what exactly is important to the participants, what questions they would want to have answers to, and what issues arise that the players deem critical to the simulation. This can do at least two important things. First, it can shed light on the players thought processes and reasoning and demonstrate their level of mastery of program learning outcomes. Second, since the idea here is program assessment, students may self-identify gaps in knowledge, learning, or training that can be addressed by program designers and curriculum development teams for the next time a program is taught. This last benefit is critically important to programmatic assessment and OBME as it completes the cycle of assessment and enhances the feedback-assessment loop.[25]

Reduce Student Test Anxiety

Finally, many students struggle with anxiety during their academic careers, especially when facing exams and when worrying about grades. One recent study by the National Institute of Health reported that more than 75 percent of the students surveyed were stressed out before an exam.[26] A study by the New York State School Boards Association reports that 28 percent of school psychologists reported that one-half or more of the students they counseled displayed adverse symptoms prior to state exams.[27] A study by the University of Chicago found direct links between anxiety, emotion, and achievement across the globe.[28] Although there is much debate about whether this anxiety actually impairs retrieval of previously learned knowledge during exams, the anxiety is well

[25] Mulready-Stone, "A New Form of Accountability in JPME."
[26] SreeRam Thiriveedhi et al., "A Study on the Assessment of Anxiety and Its Effects on Students Taking the National Eligibility cum Entrance Test for Undergraduates (NEET-UG) 2020," *Cureus* 15, no. 8 (2023), https://doi.org/10.7759/cureus.44240.
[27] Paul Heiser et al., "Anxious for Success: High Anxiety in New York's Schools," New York State School Boards Association (NYSSBA) and New York Association of School Psychologists (NYASP), 2015.
[28] Carla Reiter, "Anxiety Affects Test Scores Even among Students Who Excel at Math," UChicago News, 10 March 2017.

documented and in many cases has been shown to be detrimental to performance.[29]

Even if adult learners in PME institutions may have less trouble with test anxiety, it is still desirable to create less performance anxiety during assessments. Simulation-based assessment is a group activity that eliminates the traditional quiet, individualized test-taking environment. Conducting assessment this way enables students to demonstrate their knowledge and skills through dialogue and allows instructors to dig deeper into student understanding.[30] Students then get the chance to explain their answers or discuss them with peers, often in an ungraded environment.[31] This can help reduce student anxiety as they will worry less about making silly mistakes or misunderstanding the task, and they can take some comfort in knowing that they will have ample opportunity to display their knowledge in a variety of ways.

Disadvantages and Challenges of CAPEX-style Assessments

CAPEX-style Assessment Simulations Can Require Intensive Resources to Be Effective

Simulations designed for instructional or experiential purposes can vary greatly in the time and resources they require. They can range from a short 10-minute exercise to a term-long immersive experi-

[29] Maria Theobald, Jasmin Breitwieser, and Garvin Brod, "Test Anxiety Does Not Predict Exam Performance When Knowledge Is Controlled For: Strong Evidence against the Interference Hypothesis of Test Anxiety," *Psychological Science* 33, no. 12 (2022): 2073–83, https://doi.org/10.1177/09567976221119391; and John Jerrim, "Test Anxiety: Is It Associated with Performance in High-stakes Examinations?," *Oxford Review of Education* 49 no. 3 (2023): 321–41, https://doi.org/10.1080/03054985.2022.2079616. Jerrim, for example, finds no clear link between anxiety and performance among students age 15–16 years.

[30] Kollars and Rosen, "Simulations and Active Assessment," 153. Kollars and Rosen also point out that students are less likely to fail due to technicalities like poorly worded test questions or misunderstood directions.

[31] It is crucial to separate grading from assessment. Students might complete a graded assignment that is not used for program assessment; they may alternatively be asked to complete an assessment activity that does not result in a grade for a course. In some cases, an activity may be individually graded *and* used for assessment, but even in these cases, faculty and assessors will typically have different criteria and practices for these two different methods of evaluation. As Mulready-Stone, "A New Form of Accountability in JPME," shows, "grading is *not* outcomes assessment."

ence.[32] Assessment simulations, however, tend to be high-intensity experiences. First, they require all students (or a random sample who will not be angered by being asked to do more work than their peers) to participate, often at the end of an academic year when they are focusing on their next duty assignment. The simulation may require them to research roles or conduct other time-consuming, advanced preparation for the exercise. Second, they require a committee of faculty and administrators to design the exercise, create the materials, coordinate the logistics, sync the data with student information, and analyze the results. They also require extensive physical space to execute the exercise and virtual space to store the data. Finally, high numbers of faculty must pitch in to act as assessors at a time when many are grading final papers and projects, devoting time to training and observing the simulation. All of this can be extremely labor intensive, and such costs must be considered when adopting an assessment simulation.

Difficult to Observe and Assess the Desired Individual-level Behaviors

Tests excel in identifying individual student performance. In group simulations, however, it can be very difficult to accurately observe and assess individuals. There are several issues here. First, there is the risk that some individuals will not participate extensively in the simulation. In any group setting, it is possible for certain members of the group to perform more dominantly than others. In simulations and exercises where group decision making and teamwork are expected, it will be possible for some members of the group to fade into the background—either because of incentives to free ride or because of the nature of the exercise. Team moves or decisions (the outcomes of gameplay and crisis action planning) that are the output of group work may not give insight to individual performance, knowledge, or skills.

This is compounded by the fact that even if members participate fulsomely, they may not demonstrate the specific learning outcomes desired. As an example, Kate Kuehn in a study of wargaming assessments observed that "often, faculty formative feed-

[32] Rebecca A. Glazier, "Running Simulations without Ruining Your Life: Simple Ways to Incorporate Active Learning into Your Teaching," *Journal of Political Science Education* 7, no. 4 (2011): 375–93, https://doi.org/10.1080/15512169.2011.615188.

back would focus on how well an individual contributed to their team rather than on mastery of particular knowledge and skills."[33] It may be sufficient to observe group outcomes when assessing a program learning outcome, but if information is desired on individual performance, assessors must observe this directly from everyone. As Kuehn further elaborates, "If evaluating higher order thinking such as decision making at the individual level, one must see the thinking process of each participant or else make a contentious assumption that the final team decision and observed team conversation reflects each individual's thinking skills."[34] When participation rates are low that necessarily makes assessment more challenging.

For students who do participate, their motivations may lead them to exhibit behaviors that interfere with program assessment. Specifically, there is a risk with crisis simulations and wargames that students focus too much on winning and not enough on the outcomes or learning objectives at hand. Students of all types care about their grades and most people would also rather "win" than "lose." Fielder explicitly highlights this in his work and stresses that the focus is on learning outcomes not winning.[35] Designers will need to be careful not to encourage the focus to shift toward winning and away from demonstrating knowledge, skills, or proficiency.

There is also a difficulty in observing and recording information and data in dynamic crisis simulation settings. Without robust tools to record the actions, words, ideas, and thoughts (those expressed out loud) or the ability to video and audio record the entire game/simulation, capturing relevant data is exceedingly difficult. Not only must the data be noticed and observed but it must also be accurately recorded in real time. It can be incredibly challenging to listen in on every sidebar and conversation, particularly for an observer who is supposed to keep their presence nonintrusive. This is something other assessment tools have an advantage in, as in the case of tests and writing assignments, where the students give you this data in the form of answers to questions or their thoughts writ-

[33] Kate Kuehn, "Assessment Strategies for Educational Wargames," *Journal of Advanced Military Studies* 12, no. 2 (2021): 139–50, https://doi.org/10.21140/mcuj.20211202005.
[34] Kuehn, "Assessment Strategies for Educational Wargames," 148.
[35] Fielder, "Reflections on Teaching Wargame Design."

ten in essays. Video and audio recording of simulations and games is not a feasible solution for all games all the time for a variety of reasons, including ethical and privacy concerns.

As a result, simulation assessments require extensive work to train assessors on what to look for, how to record it, and how to reliably apply rubrics for assessment and evaluation. The simulation and game must be designed with assessment in mind and the tools and materials must be built in to capture the data needed for quality assessment. Even when training and conditions are optimal, there will likely be many more cases of "not observed" in a simulation-style assessment.

It Is Challenging to Design a Simulation that Clearly Aligns with the Intent of Assessment

The simulation design stage may not ensure that the varying demands on the exercise continue to align with assessment objectives. It is a challenging task to design crisis simulations and wargames involving groups of autonomous human beings that effectively emulate the real world with all its complexity and nuance and at the same time drive the activity in a way that elucidates specific learning outcomes. This is why it takes years of practice and training to develop good wargames.[36] As Elizabeth Bartels highlights, "master designers throughout government and industry work for years to develop the knowledge needed to select the right approach for the problem at hand."[37] Game and simulation materials, scenarios, and scripts must be carefully designed to yield the behaviors and outcomes that assessors are looking to see. If the scenario or materials are insufficient it is possible that the individuals taking part in the assessment may perform activities or solve problems unintended by the designers. If assessors must get involved during the scenario to correct this, it may bias the results and invalidate the assessment process by priming students to behave in a particular way.

For example, if an outcome under assessment focuses on ethical decision making, the scenario should set students up so they can demonstrate their abilities to engage in moral deliberation,

[36] John Compton, "The Obstacles on the Road to Better Analytical Wargaming," *War on the Rocks*, 9 October 2019.
[37] Elizabeth Bartels, "Building a Pipeline of Wargaming Talent: A Two-track Solution," *War on the Rocks*, 14 November 2018.

perspective taking, or their knowledge of ethical perspectives. If the scenario leans too much into something that is not being assessed—such as role-playing as specific actors in the National Security Council—the students may completely ignore the area being assessed. Evaluators then must decide whether to step in and prime the students to consider ethics—which will ruin the simulation as an assessment practice—or record a high number of "not observed" ratings. Those analyzing the data later will not know if ethical decision making was not observed because students have not learned to internalize those approaches, or because the simulation was designed in such a way as to lead students to focus on a completely different set of skills and knowledge.

The specific outcomes you are hoping for must drive everything from the design of the game to the assessment tools used to evaluate performance during and after execution. This is what Fielder refers to as the "Primacy of the Objective."[38] But if being considered as a tool to evaluate an entire program, there is a clear risk that any specific scenario and simulation is asked to do too many things at once. It is likely that program learning outcomes are robust requirements and encompass broad, complex, high-level tasks/skills/knowledge. Single scenarios may not be able to capture all of these at once, and therefore as a programmatic assessment tool may need to be combined with other elements to get a complete picture.[39] Asking too much of the simulation is a potential hazard in utilizing these tools for programmatic assessment.

Another challenge is designing a scenario with the right balance of realism and abstraction. No simulation can avoid some level of abstraction, but too much can reduce the immersion, while too little can paralyze students with an excess of information and choice. In a JPME setting, there is a real need to maintain as much realism as possible, given the Joint Chiefs of Staff's (JCS) desire to develop leaders who are better prepared for war and Joint warf-

[38] Fielder, "Reflections on Teaching Wargame Design."

[39] *Outcomes-Based Military Education Procedures for Officer Professional Military Education* discusses a holistic and multifaceted approach to program level assessment, likely requiring multiple forms of assessment to cover the entire list of PLOs.

ighting.[40] As the JCS wrote, "the driving mindset behind our reforms must be that we are preparing for war."[41] As practitioners will be the first to say, however, they cannot adequately simulate war in a classroom. Despite that fact, it may be possible, as discussed above, to stimulate emotional, moral, ethical, and intellectual engagement to such an extent that wargaming and crisis simulation may indeed become a visceral experience with lasting impact. This requires expert design and facilitation, and there is no guarantee that any given exercise will feel realistic enough to participants to fully demonstrate their skill and knowledge in matters of warfighting and strategic thinking. Wargames necessarily make important abstractions so they may focus on more important objectives and factors. This balancing act will require practice and fine-tuning and deserves consideration.

Lastly, evaluating student performance to assess learning outcomes is inherently difficult. Ultimately, the process relies on subjective assessments made by the observers, instructors, and/or evaluators. Since these events are explicitly not tests or written assignments with clear rubrics and direction, and since they are meant to assess skills learned throughout an entire program, evaluation and assessment may be complicated by a lack of standard rubrics or grading criteria. Someone must observe the game and interpret what they see. Assessors must be trained at least to some degree in how to do this task, but when evaluating entire programs, this is going to require many participants in the evaluator/assessor role. Standardizing their interpretations and understandings of what counts as good/bad or pass/fail performance will be challenging. Additionally, program-level outcomes, as mentioned before, are likely to be broad and complex, which adds to the difficulty of creating and implementing standardized and consistent assessment tools.

In summary, crisis action planning exercises may be useful in assessing program learning outcomes but there are numerous challenges to doing so. In the best case, the PLOs themselves will

[40] See *Outcomes-Based Military Education Procedures for Officer Professional Military Education*; and *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* (Washington, DC: Joint Chiefs of Staff, 2020).
[41] *Developing Today's Joint Officers for Tomorrow's Ways of War*, 6.

Table 2. Questions to ask when considering a crisis simulation or wargame for program assessment

Crisis simulation as assessment decision tool	
1	Is a CAPEX-style simulation a good fit for achieving program assessment, or are other methods available that would work better?
2	Do the specific PLOs lend themselves to a CAPEX-style simulation?
3	What challenges inherent to crisis simulation are likely to occur?
4	Are the resources available to overcome the likely challenges?
5	Will the information gained from a CAPEX be useful in informing curricular decisions?

Source: courtesy of the authors, adapted by MCUP.

be well suited to this type of assessment and experienced game designers will be able to craft scenarios that adequately solicit the desired behaviors and outputs as well as incorporate appropriate assessment tools. In the worst case, PLOs will not be amenable to crisis action planning exercises and will therefore be ill-suited to good scenario design and measurable outputs. If assessors push too hard to institute crisis action planning exercises in cases where they are not appropriate, or build exercises that are not well designed, it will be a huge waste of everyone's time and will not contribute to the cycle of learning or a productive assessment-feedback loop. Some guidance is needed to determine whether the benefits are worth the costs.

A Decision Tool for Adopting CAPEX-style Assessments

As a preliminary effort to provide guidelines for when a crisis action-planning exercise (CAPEX)-style simulation is most appropriate, the following list of questions serve as a tool to assist in decision making (table 2). These questions may be applied to any setting in which a programmatic assessment is required, and faculty are considering the use of a crisis simulation for this purpose.

First, is a CAPEX-style simulation a good fit for achieving as-

sessment objectives? It is possible that there are some learning outcomes that can only be assessed this way. This arguably is true if outcomes require group-based performance in time-critical tasks or in studying decision-making processes, for example. In addition, there may be other factors pushing for a capstone or wargaming experience that could benefit from being combined with assessment. It is also possible that individual courses and existing experiences do not provide adequate program assessment opportunities, and some kind of new event is needed. In such cases, a CAPEX may prove a useful method of program assessment. If, however, existing courses or experiences provide assessment opportunities, or there is no available time in the academic year to insert a multiday event, CAPEX may be a bad fit.

Second, do the required PLOs lend themselves to a CAPEX-style simulation? If the PLOs are not well suited to the advantages of crisis simulations, the most important of which are listed above, alternative measures might be better. For example, PLOs that are purely knowledge based might be better assessed through an exam or portfolio analysis. If some PLOs are mapped to specific courses, it might be better to design course-level assessments, which can still include simulations.

Third, what challenges inherent to crisis simulations are likely to occur? Table 1 provides a good starting point but may not be inclusive, and every assessor should ask how likely it is that these risks and challenges will be detrimental to their assessment. These challenges might include monetary costs, time, risks of burnout, onboarding or detailing well-trained simulation designers who also understand assessment, logistics, student resistance, lack of faculty or administrator buy-in. The list of potential challenges is long, and an honest assessment of the institution's challenges is needed before investing the energy required in building a CAPEX assessment.

Fourth, are the resources available to overcome the challenges of running crisis simulations? Not all good ideas are implementable given resource constraints and if it is known early on that there will be limited time or resources available, alternate means should be selected. Institutions must be willing to invest time, money, administrative support, and faculty and student energy in the CAPEX; otherwise, it is doomed to failure as few will think it is a good use

of time. Resource-strapped institutions interested in the benefits of simulations might consider using them first as instructional activities, rather than as program assessments. If PLOs can be assessed in less costly and resource intensive manner, institutions will benefit from being able to devote that time and those resources elsewhere.

Last, will the information gained from a simulation be useful? The entire purpose of OBME is ensuring that outcomes are met, and if not, to adjust curriculum appropriately to ensure that they are. Assessment data should directly inform decisions about curriculum, and a CAPEX-style simulation is only valuable to the extent that it will be supported as a source of such data. If faculty or administrators are likely to be skeptical of the data, resources constrain the data that will be collected, or the institution lacks robust data management, analysis, and feedback mechanisms, then the data from a CAPEX is likely to wilt unused. Likewise, if assessors cannot design and train on effective rubrics that evaluate observed behavior, there will be little high-quality data available to inform decision making. In such cases, a lot of effort would be saved by designing a less resource-intensive assessment mechanism. Finally, an end-of-program CAPEX assessment alone cannot tell assessors whether any observed knowledge, skills, or behaviors is due to the program; it is possible that students either entered the program with these outcomes or developed them concurrently with their program (a particular risk with students who complete their JPME requirements on top of a day job). At a minimum, some kind of baseline-establishing pretest is needed to compare to CAPEX results to be able to use the data confidently as evidence of program effectiveness.[42]

These five questions serve as an initial tool for assessors to guide decision making on whether to adopt a CAPEX-style assessment simulation. To illustrate their use, the authors turn to some preliminary data from the U.S. Naval War College CAPEX beta tests from AY 2021–22 and AY 2022–23. In general, they found that the advantages of the CAPEX are currently outweighed by the challenges and recommend pursuing other avenues of assessment.

[42] The gold standard from a research perspective would also include random selection and control groups, but those are not generally possible in educational assessment.

CAPEX-style Assessment at USNWC: A Case Study

In line with the United States' Chairman of the Joint Chiefs of Staff's (CJCS) mandate that all Joint professional military education (JPME) schoolhouses become certified as outcomes-based military education (OBME) institutions, the U.S. Naval War College adopted a CAPEX-style program assessment in 2022.[43] The Naval War College is a graduate-level institution and this CAPEX assessment was designed to assess two specific programs: the master's degree programs for defense and strategic studies (College of Naval Command and Staff) and for national security and strategic studies (College of Naval Warfare). The program-level outcomes and the assessment methods discussed in this section refer to the specific PLOs for these programs.

The format of the CAPEX is a tabletop crisis action planning simulation where groups (preexisting seminars of approximately 11–13 students) are provided a brief scenario and are asked to develop and provide potential response options to the national security advisor (NSA). Following the group exercise, a short, individual writing exercise is assigned, followed by a smaller group oral board (usually four students per group). The group work prompt consists of a brief description of the situation, which is set in the real world so that all information not provided can be drawn from their knowledge of the world as it exists today. This is followed by the fictional NSA's guidance for developing courses of action. The final product of this group work is a memorandum of no more than 750 words describing the potential options. The individual writing task is a 500-word product in which students further defend one of the three options presented in the group work memorandum. The oral panel is a series of eight questions that all four students answer, and they take turns with who answers the question first.

The purpose of this CAPEX is to assess existing PLOs that have been derived from the Joint learning areas (JLAs) designated by the CJCS.[44] All PLOs are meant to align with the JLAs in a significant way, and all PLOs are to be assessed as part of a full OBME

[43] See *Outcomes-Based Military Education Procedures for Officer Professional Military Education.*

[44] The Joint learning areas can be found in *Officer Professional Military Education Policy*, CJCSI 1800.01G (Washington, DC: Joint Chiefs of Staff, 2024).

Table 3. Naval War College program learning outcomes, 2023–24

College of Naval Command and Staff PLOs; intermediate-level course (ILC) JPME Phase I		College of Naval Warfare PLOs; senior-level course (SLC) JPME Phase II
PLO 1	Demonstrate Joint planning and warfighting ability in military operations and campaigns across the continuum of competition	Demonstrate Joint warfighting leadership when integrating the instruments of national power across the continuum of competition
PLO 2	Create theater and national military strategies designed for contemporary and future security environments	Create national security strategies designed for contemporary and future security environments
PLO 3	Apply the organizational and ethical concepts integral to the profession of arms to decision making in theater-level, Joint, and multinational operations	Apply the organizational and ethical concepts integral to the profession of arms to decision making in theater-level, Joint, and multinational operations
PLO 4	Apply theory, history, doctrine, and seapower through critical, strategic thought in professional, written communication	Apply theory, history, doctrine, and seapower through critical, structured thought in professional, written communication

Note: these are the latest versions of the PLOs that are under revision.
Source: internal memorandum, "Requirements for NWC JPME-I/II Curriculum, as of 22 Oct 2023," authors' files.

certification process.[45] The PLOs for the Naval War College are listed in table 3. Each have been painstakingly crafted through a diverse and inclusive process that solicited input from multiple stakeholders throughout the institution and the broader PME community. They are designed to be broad and comprehensive, and therefore leave ample room for flexibility in when and how they

[45] Importantly, the Naval War College is still in the process of achieving full OBME certification and has met all required milestones to date. The CAPEX, as designed, is in development and does not represent the sum total of USNWC assessment efforts. It is only a part of NWC's assessment plan.

are taught, practiced, and assessed. Additionally, each PLO is supported at the course level by course learning outcomes (CLOs) that achieve specific course goals designed to build and contribute to the overall PLOs for each program.

It is easy to see that these PLOs are quite comprehensive and demand that the Naval War College create programs that achieve challenging learning outcomes. The comprehensive nature of these outcomes is one reason why the Naval War College turned to a crisis simulation-type exercise to evaluate their program level outcomes. In conversations with those in charge of creating and executing the CAPEX, it was clear that an end-of-course simulation-type exercise was deemed necessary because the original PLOs (different than those listed above) required demonstrating knowledge and skills that could only be gained from completing the entire course of study. This meant that a continuous assessment process that measured PLOs at different points in the curriculum would not work. However, many in the college disagreed on whether an end-of-year simulation would be required, and the debate continues today. Using the assessment decision tool, the authors' conclusion is that this CAPEX as it is currently configured does not meet the assessment needs of the Naval War College.[46]

Overall, after action reports from the last round of CAPEX beta testing show that the exercise still requires extensive improvement to meet the needs of program assessment. The CAPEX demonstrates both the advantages of crisis simulations but also falls victim to some of the risks and challenges inherent in these types of exercises. Applying the five questions of the tool provides guidance as to how to move forward.

As to the first question in the tool—Is a crisis action planning exercise a good fit?—the authors believe the answer is mostly no. First, nothing in the CJCS instructions requires PME institutions to use this type of assessment. PME institutions are expressly given the freedom to decide when and how to assess PLOs if the institution effectively meets the OBME requirements. In other words, if the program is assessed by considering outcomes rather than content

[46] The authors have gathered some after action reports and engaged in numerous conversations with the designers and facilitators of the CAPEX. This evaluation of using CAPEX for program assessment is based on these reports, informal conversations, and analysis from participating as assessors.

and time spent (as previously used), the assessment committees are free to assess the program in a piecemeal fashion, throughout the individual courses for example, rather than relying on a single capstone event to assess PLOs. Additionally, the existing PLOs can be assessed during the constituent courses with appropriately targeted assignments, which is much less resource intensive and adds less to overall institutional workload than a stand-alone, end-of-program exercise. For example, PLO 4 aligns very well with assignments conducted in the Strategy and Policy Department and should be well suited to assessing these outcomes.[47] The PLOs are *not* of a nature that requires a student has completed the entire course prior to assessment of any single PLO, which negates any need for a specifically end-of-term assessment event. While ending the course of study with an experiential capstone does fit the Naval War College's overall educational ethos, structural factors impede CAPEX from being a true capstone experience. Unlike most U.S. PME institutions, NWC accepts off-cycle students who begin their program midway through the academic year. These students still participate in CAPEX, despite having not finished their program; for them, it is not a final capstone experience. In many ways, the desire to have an end-of-program capstone event as an experience for students became conflated with the need to conduct program assessment, but trying to achieve both purposes at once constrained the ability of the CAPEX to serve either purpose particularly well.

Additionally, there are alternative methods available to assess these PLOs. Within specific courses, research assignments, group exercises, Joint warfighting crisis simulations, strategic assessments and analysis, written assignments and other faculty graded or assessed events already exist in the core courses and departments that could be used to assess the existing PLOs. The primary rational for an end-of-program CAPEX was to account for skills that required completion of all the core courses before assessment. This is no longer the case. As just one example, essay assignments in the strategy and policy courses require students to apply theory, history, doctrine, and seapower through critical, strategic thought to a series of case studies throughout the course. These assign-

[47] The current PLOs appear to have been better aligned with the individual core courses taught as part of the JPME curricula at the NWC. This may facilitate a shift away from the CAPEX requirement and is actively under consideration.

ments can serve as written communication in support of PLO 4, with perhaps very minor adjustments to drive more focus toward the maritime (seapower) components or cases.

The second question—Do the specific PLOs lend themselves to taking advantage of crisis simulation?—is more mixed. PLOs 1 and 3, which focus on Joint planning and decision making, respectively, do lend themselves to many of the advantages and reasons to use a crisis simulation. PLO 1 might best be assessed in a group setting in which multiple actors and capabilities are drawn on to create an operational plan that addresses many aspects across a continuum of conflict. Depending on what aspects of decision making the assessment team is focused on, PLO 3 may also be well-suited to a crisis action planning type event. However, both PLOs may also be addressed throughout different courses, particularly in the JMO course (PLO 1), and in the leadership in the profession of arms course (PLO 3) with existing or slightly modified assessment tools. PLOs 2 and 4 are exceptionally well adapted to assessment during existing course assignments in the theater/national security decision-making courses and the strategy and war/policy courses and do not consist of tasks that are best assessed through a simulation.

Regarding question three, a CAPEX-style event in this setting is likely to encounter almost all the listed challenges and risks, resulting in a resource intensive and highly complex process with the exception that there is almost no risk of students focusing too much on winning due to the specific design of this CAPEX. While this alone should not rule out a CAPEX-style event, the administrative burdens of conducting the exercise might. The NWC CAPEX faced issues with observing individual performances: during 2023–24, almost 50 percent received "not rated" entries from assessors. For some respondents, it was because they were off-cycle students or unable to attend the entire event, but free-riding cannot be eliminated as a factor, as many students were in the final stages of preparing to move to execute their next set of military orders.[48] The entire student body participated, spending a week of their time despite end-of-term pressures. This is a considerable investment of time to evaluate a single PLO, which should prompt considerations of whether these challenges can and should be overcome.

[48] *Crisis Action Planning Exercise (CAPEX)—June 2024: Preliminary Report* (Newport, RI: Office of Institutional Effectiveness, Naval War College, 2024).

Question four on the availability of resources is more difficult to answer. Leadership did invest in the CAPEX, but some costs are not monetary, notably those to the faculty who were asked to devote time to supporting CAPEX as moderators and assessors. This represents real opportunity costs due to devoting the necessary time and effort to designing these scenarios, simulations, grading rubrics, and faculty training. As one small piece of evidence, CAPEX required almost 100 fully qualified faculty members during three days to train, facilitate, and debrief the exercise during the 2023–24 academic year.

Question five asks whether the information gained from a CAPEX will be useful in informing curricular decisions, and so far at NWC the answer is largely no. Challenges in accurately observing and recording data on students has resulted in very high "not recorded" rates, making it difficult to glean useful insights from the data. Furthermore, the lack of any kind of baseline-establishing pretesting or control groups makes it difficult to determine whether behaviors that are observed are due to learning at NWC or representative of prior training and education. This renders the CAPEX data of limited utility in assessing whether those demonstrating mastery developed their skills and knowledge at NWC or elsewhere.

In addition, to date, the impact of CAPEX on curricular decision making has been limited. In the most recent report, 91 percent of students rated were deemed to have passed the mastery threshold for PLO 4.[49] While after action reports are plentiful, there is little evidence to suggest that the PLO analysis from CAPEX led to any kind of curricular revision. Instead, decision makers have changed the wording of PLOs and requested curricular innovations that respond to higher-level pressures, such as the creation of the new Perspectives on Modern War Course, an innovation that was requested by the president and provost at NWC in light of external pressures on modernizing the curriculum and internal desires to integrate the existing core curriculum and ensure students have time to discuss the remarks of distinguished visitors. At no time during the creation of this new two-credit course, which required stripping credit hours from existing courses, was CAPEX mentioned as a

[49] *Crisis Action Planning Exercise (CAPEX)—June 2024: Preliminary Report.*

source justifying the change.[50] If the only place CAPEX finds a role in NWC operations is to respond to accreditation reports to show that assessment is taking place, this suggests that the exercise has minimal value as an assessment tool, even if it serves as a potentially valuable capstone experience for students.

Overall, the result of this tool-based analysis is a healthy skepticism about the value of the current CAPEX at the Naval War College. This should not take away from the excellent and thoughtful work that many faculty and staff put into instituting the CAPEX to improve assessment at NWC. However, if these are indeed useful questions to ask, then an honest consideration should lead decision makers to seriously question the utility of an end-of-program CAPEX-style assessment. It may, however, be useful to also analyze CAPEX using the advantages and disadvantages outlined in the article to provide further insight into this case study of crisis simulation assessment.

NWC's CAPEX excelled in its authenticity, immersive engagement, and capstone setting. As designed, the crisis exercise created a planning environment where students used their existing knowledge and tools to work as teams to develop strategies to address a problem. They had to quickly assess the situation, develop courses of action, present their options, defend them in a written assignment, and then answer questions before an expert panel. All these activities are ones that military officers and their interagency counterparts can expect to do in their professional work. There was also a high degree of both student and faculty engagement. As an internal memorandum highlights, the assessment committee was "extremely pleased" to report that it was "quite clear" that faculty and students were "professionally engaged in the event."[51] The CAPEX has also yielded some positive data regarding the proficiency levels of those students who were assessed, demonstrating the value of having a capstone event to capture such data. In the senior-level course (SLC) CAPEX last year, for example, 90.67 percent of students observed received the top two box scores (proficient or exemplary) when assessed for PLO 1. Encouragingly, the

[50] The authors are one of two CAPEX directors and one of the members of the team that created the new course; this finding is based on their experiences in these roles.

[51] "Memorandum to Assessment Committee from Director of Institutional Effectiveness," dated 23 October 2023, authors' files, hereafter October 2023 memo.

assessors in the SLC course only reported a "not observed" response in 10.71 percent of students, a testament to faculty and student engagement and focus during the assessment.[52] In the case of the intermediate-level course (ILC), 63.34 percent of those observed were in the top two boxes for PLO 1C (a subset of PLO 1).[53]

Yet, challenges persisted. While simulations can allow assessors to observe skills and processes, the challenge in observing individual-level behaviors meant there was a high number of "not observed" ratings. In one iteration in the ILC, more than 78 percent of students were "not observed" in the sub-PLO outcome "demonstrate joint warfighting in military operations." It is possible this sub-PLO may simply not be observable in a formal classroom setting. Further, even if some nonliteral interpretation of the sub-PLO is used, it was very challenging for assessors to observe individual behavior while students were working together in small groups. Whatever the reason, that only 22 percent of students had recorded observations of any rating suggests an issue in the design of the simulation.

Design alignment was also an issue. The after action reports noted a mismatch between the simulation materials (the situation, the scripts, prompts, etc.) and the PLO subcriteria defined on the rubrics that assessors used to evaluate student performance. Assessors reported "that certain scripts, prompts, and other material prepared before the exercise did not align well with some of the PLO sub-criteria defined on the rubrics." This may be a primary source of the "not rated" observations mentioned above. This aptly demonstrates the challenge of crafting an appropriate scenario to capture the specific PLO of interest. Other CAPEX assessors (NWC faculty selected by their departments to participate) lamented that the assigned scenario in the SLC CAPEX did not actually consist of a "crisis" and so the option for students to "do nothing" was too attractive, essentially invalidating the entire purpose of a crisis action planning exercise. This further demonstrates the difficulty of crafting scenarios and scripts that allow for observable and assessable data.

Another challenge identified was that of data collection, for-

[52] October memo.

[53] Without an experiment with a control group that does not participate in CAPEX, and with no alternative capstone to measure, there is no way to know whether CAPEX reduced student anxiety compared to a nonexistent test.

matting, and analysis. Reports identified that "more robust" data would be required to "allow the type of analysis required for PLO assessment."[54] These needs were mostly technical in nature, having to do with the scale used for proficiency measures (such as using a three- or four-point scale), conventions for assessor comments, consistent formatting for PLO assessment rubrics, and similar concerns. Additionally, since all students were evaluated by two assessors (who individually reported their own results), there was not enough data available yet to assess inter-rater reliability, something that also highlighted concerns about standardizing faculty understanding of the criterion measures and the assessed mastery level assigned. While training was provided to faculty, none of it centered on generating consistent interpretations of the rubrics, leaving faculty free to use their individual interpretations of what they saw.

Lastly, the assessment committee identified that the CAPEX in its current form may in fact be attempting to do too much with too few resources. The memorandum noted that the committee is investigating what "embedded course assessments/assignments can be used to gauge student PLO or sub-PLO mastery." This is being considered to explicitly hedge against trying "to do too much; something the J7 has warned us about."[55] With hundreds of faculty and all students involved at the end of the academic year with many other competing priorities, it may be that the investment of time and energy is too great, when there are possible lower-cost alternatives available to achieve the assessment purpose.

In sum, the authors' experiences and what little formal evidence is available from early beta testing of the NWC CAPEX demonstrates that the challenges of producing a well-aligned, sufficiently resourced assessment capstone experience are great. The CAPEX designers and facilitators have done an admirable job designing an assessment tool that can do the job. They deserve accolades for their superb efforts to overcome the challenges inherent in this kind of tool and to benefit from the advantages of such tools. But if there are other ways to complete program assessment with much less cost in terms of faculty resources and time required, then those

[54] October 2023 memo.
[55] October 2023 memo.

require exploration, especially when the data has not yet shown itself to be of extensive use for curricular revision.

Conclusion

This article argues that there is a lack of data and research focused on when crisis simulations and wargames are useful as *programmatic assessment tools*. There is little doubt from existing literature that CAPEX-style exercises are valuable as instructional and experiential tools, and that students get great value from participating in them. As capstones, they can excel. But combining an experiential capstone event that aims at increasing student learning with an assessment event that evaluates learning is a challenging task that requires analysis and study.

In this essay, the authors sketched out some preliminary answers to several questions related to this clear gap. They offer a simple framework for considering when and if a crisis simulation or CAPEX-style event is the most appropriate tool for assessment, and examine the key advantages and challenges of using crisis simulations as assessment tools. It is by no means clear if these lists are all inclusive or exhaustive. Future research should continue in this vein to identify the most important strengths and weaknesses of these tools for assessment purposes. This should include empirical research that aims to show the specific informational and data-analytic advantages to using these tools instead of more traditional assessment methods.

The authors also presented a new decision tool, asking decision makers to consider five key questions when examining CAPEX-style simulations for use as assessment vehicles. Future research should refine this list and explore simple but powerful frameworks for helping institutional assessment bodies make informed decisions about utilizing crisis simulations and wargame-type events. CAPEX-type events will not be the best option for all PLOs and will very rarely be the only option. With the current growth of crisis simulations and gaming techniques as pedagogical and research methodologies, it will be wise for those who use them to develop best practices and efficiencies to make the best use of the institution's limited and valuable resources.

The case study of the Naval War College experience from 2022

to 2024 demonstrates that more work is needed to design capstone assessment experiences that can maintain the benefits of simulations while meeting the challenges of resourcing, observing desired PLO outcomes, and aligning design with assessment needs. OBME requires innovation, and the NWC CAPEX exemplifies that approach. Its current inability to maximize advantage and minimize costs could be addressed through two paths: first, the assessment team, armed with the knowledge of the last two years, can revise the CAPEX to improve its resourcing, observational needs, and design alignment. Second, the college can look to noncapstone measures of assessing program learning outcomes. In the latter case, it may be possible to preserve the CAPEX as a valuable experiential learning capstone for the students. Removed from the need to assess students and PLOs, CAPEX would be restored to all the valuable gains from using simulations in the classroom established by the extensive literature on that subject. Regardless, the mismatch between experience and assessment tool must be resolved if CAPEX is to achieve its goals and bring its projected value to the college.

Between the analysis of advantages and disadvantages, the decision-making tool, and the experience of the Naval War College, the authors hope that other military institutions faced with meeting the needs of OBME are able to find a viable path forward as they consider how to construct valuable experiences that provide real benefits to the institution from the instructional, experiential, and assessment potential of CAPEX-style simulations.

About the Authors

Cdr Daniel Post (USN), PhD, is a professor of strategy and policy at the U.S. Naval War College in Newport, RI. He received a BS in mathematics from the U.S. Naval Academy, an MA in national security and strategic studies from the Naval War College, an MA in political science from Brown University, and a PhD in international relations from Brown University. His research focuses on nuclear deterrence, escalation dynamics, limited nuclear war, and conflict termination. He is also the codirector of the Perspectives on Modern War Course at the Naval War College.
https://orcid.org/0009-0001-3107-3080

Dr. Amanda M. Rosen is professor of teaching and learning and interim

director of the Writing and Teaching Excellence Centers at the U.S. Naval War College, where she conducts faculty development, research, curricular development, and assessment on educational gaming and instructional strategies in the security studies and professional military education contexts. She is the author of the 2024 book *Teaching Political Science: A Practical Guide for Instructors* and is the cofounder of the award-winning *Active Learning in Political Science* blog. Her work has appeared in the *Journal of Political Science Education*, *PS: Political Science & Politics*, *International Studies Perspectives*, *Politics & Policy*, and multiple edited volumes.
https://orcid.org/0000-0003-1858-481X

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SOFT SKILLS IN FAVOR OF ADVANCED MILITARY EDUCATION

Maroua Cherni, PhD, and Feten Slimeni, PhD

Abstract: The concept of military education has evolved significantly during the years, reflecting the changing education methods from physical training and hard knowledge-based activities to more advanced and effective techniques. Modern military education recognizes the importance of soft skills required for adaptation to the complexities of twenty-first century military operations and resilience to future challenges. Developing new abilities like critical thinking, problem-solving, and flexibility can significantly support academic performance and enhance students' capabilities. Also, the role of a multiskilled teacher is crucial, not only for improving students' academic outcomes but also arming them with techniques to face life challenges. This article emphasizes this requirement and suggests leveraging project management (PM), emotional intelligence (EI), and neuro-linguistic programming (NLP) to enhance educational psychology and pedagogy principles. These strategies—PM, EI, and NLP—provide adequate soft skills to boost the teaching-learning experience by improving communication, understanding emotional cues, and effectively managing the teaching and learning projects. The proposed methodology is detailed and illustrated using application examples. Finally, results highlight its effectiveness in the transformative global landscape.

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Keywords: advanced military education, soft skills, project management, PM, emotional intelligence, EI, neuro-linguistic programming, NLP

Introduction

Education plays an important role in developing knowledge, skills, attitudes, and values that enable people to contribute and benefit from an inclusive and sustainable future.[1] To participate effectively in the workplace and deal successfully with labor functions, students should have professional competencies and develop life skills. Therefore, today's learning process focuses on soft skills in addition to hard skills to fit the twenty-first century landscape.

Technical skills (a.k.a. hard skills or hard competencies) refer to the ability to master something through education and training. It is a set of competencies that enable students to perform job duties. This knowledge "comprises a person's technical skill set and ability to perform certain functional tasks."[2] Hard skills are those learned at school from readings or even performed hands-on, such as accounting, mathematics, and law.

Thus, hard skills refer to specific knowledge and technical skills toward one's major.[3] That is why these skills can be divided into two components for specific knowledge and skills of a subject.[4] So, they are the essential requirements for a career in a particular field of expertise. For example, an English teacher must master teaching strategies and tools completely different from those of a lawyer. These hard skills are valuable to graduate and undergraduate students for their future and are compulsory to have an occupation. However, these skills provided at school are not enough for students to succeed in their careers or even find a job. That is

[1] *The Future of Education and Skills: Education 2030* (Paris: Organisation for Economic Co-operation and Development, 2018).
[2] R. Kalytchak et al., *Soft Skills: Academic Guide/Teaching Materials* (Northumbria, UK: Shoo Fly Publishing, Education, Audiovisual and Culture Executive Agency, 2015), 16.
[3] Peraturan Menteri Riset, Teknologi, Dan Pendidikan Tinggi Republik Indonesia, Nomor 44, Tahun 2015, *Standar nasional pendidikan tinggi*.
[4] Hadiyanto, Rd. M. Ali, and Mariza Juwita, "Enhancing EFL Students' Soft and Hard Skills through Blended Learning Activities," in *Proceedings of the 4th International Conference on Language, Literature, Culture, and Education* (Amsterdam: Atlantis Press, 2020), https://doi.org/10.2991/assehr.k.201215.043.

why it is often said that hard skills will get you an interview, but you need soft skills to get and keep the job.[5]

Today, to be accepted in some occupations (e.g., international organizations), the combination of hard and soft skills is required because of the interdependence between interpersonal aspects and professional life. Broadly, the global labor market has changed in the twenty-first century and employers give higher consideration to soft skills than graduates realize.[6]

As a result, twenty-first century students need new skills to fit their complex and constantly evolving future.[7] For instance, they require responsibility, communicative qualities, critical thinking, creativity, problem-solving, empathy, leadership, and self-management that includes time and stress management.

Soft skills could be defined as life skills that are behaviors used appropriately and responsibly in the management of personal affairs, and many of them are tied to individuals' personalities rather than training. They are a set of human skills acquired via teaching or direct experience that are used to handle problems and questions commonly encountered in daily human life and personal and professional affairs.[8]

Life skills including personal qualities, interpersonal skills, and additional skills and knowledge, have been defined by the World Health Organization as "abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life."[9]

As a result, these skills represent the psycho-social skills that determine valued behavior and include reflective skills like problem-solving and critical thinking, personal skills such as self-awareness, and interpersonal skills. Practicing these competencies can lead to improved self-esteem, sociability, tolerance, action competencies to take action and generate change, and capabilities to have

[5] Kalytchak et al., *Soft Skills.*
[6] Chiara Succi and Magali Canovi, "Soft Skills to Enhance Graduate Employability: Comparing Students and Employers', Perceptions," *Studies in Higher Education* 45, no. 9 (2019): 1834–47, https://doi.org/10.1080/03075079.2019.1585420.
[7] Cahit Erdem, "Introduction to 21st Century Skills and Education," in *21st Century Skills and Education*, ed. Cahit Erdem, Hakkı Bağcı, and Mehmet Koçyiğit (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2019).
[8] Kalytchak et al., *Soft Skills.*
[9] *Skills for Health* (Geneva, Switzerland: World Health Organization, 2003), 3.

the freedom to decide what to do and who to be.[10] Mastering these skills is the only path to being the best version of ourselves.

This trend aligns with the evolution toward a pedagogy that relies on psychology for effective education. The concept of *pedagogy* refers to the teaching method and the teacher's responsibility to present knowledge and help the student understand it.[11] *Educational psychology* covers how people learn and retain knowledge, leveraging psychological principles to enhance the learning experience for diverse learners.[12] Pedagogy that relies on educational psychology may help the teacher determine effective teaching strategies to reach educational goals for teachers and students.[13]

Soft skills are essential to boost an individual's relationships and improve job performance and career prospects. The ability of teachers and military students to identify, develop, and evaluate such skills is undeniable to enjoy achieving personal and professional goals. In this same context, American author Orison Swett Marden said, "Work, love, and play are the great balance wheels of man's being." Professional military education is also affected by the soft skills revolution. The success of a teacher in their mission and graduate/undergraduate students in their career and personal life depends on the acquisition and development of technical and life skills. The teacher's function is not only the transmission of technical knowledge, but it is the process of transferring life experience. Therefore, in the military context, hard skills such as weapons handling and radio communication principles are indispensable but insufficient to deal successfully with the challenges of modern operations. Preparing commanders who can manage international operations and make adequate decisions requires a wide range of soft skills that ensure cultural awareness and intercultural competencies.[14]

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[10] Kalytchak et al., *Soft Skills.*

[11] Rajendra Kumar Shah and Sanothimi Campus, "Conceptualizing and Defining Pedagogy," *Journal of Research & Method in Education* 11, no. 1 (2021): 6–29, https://doi.org/10.9790/7388-1101020629.

[12] Neil H. Schwartz, Kevin Click, and Anna N. Bartel, "Educational Psychology: Learning and Instruction," in *International Handbook of Psychology Learning and Teaching*, eds. Joerge Zumbach et al. (Switzerland: Springer, Cham, 2022), https://doi.org/10.1007/978-3-030-28745-0_67.

[13] Dillip Giri, *Pedagogy: A Critical Approach to Teaching and Learning, Accreditation and Quality Assurance* (India: Swami Vivekanand Subharti University, n.d.).

[14] Karl-Reinhart Trauner, *Soft Skills of a Modern Soldier: Military Ethics* (Harrisburg, PA: Eber & Wien, 2012).

The objective of this study is not the distinction between hard and soft skills, because the two categories are essential to perform successfully in teaching, learning, and real-world. The main objective is to explore the "soft skills revolution" to promote teaching-learning methods and create a positive and committed work/learning environment. The proposal is built on a mindset of motivation, engagement, and commitment considering that failure does not exist, there is only experience and feedback. Furthermore, this article highlights the need for these skills to succeed in advanced military educational mission and improve students' engagement in the learning process. The authors review the historical evolution of military education. They then detail the proposed methodology leveraging the recipe of PM, EI, and NLP, and provide insights into practical experience in professional military education. Finally, the authors discuss the results and the necessity of implementing these skills in military education.

Literature Review

The concept of military learning has evolved significantly over time, reflecting changes in global military educational methodologies. Historically, military education was limited to formal institutions, often focusing on technical skills. Nevertheless, contemporary military education increasingly recognizes the importance of soft skills, acknowledging the necessity for adaptability to modern requirements.

Going back to the nineteenth century, the Prussian military education model was adopted worldwide. It combines theoretical knowledge with practical training to prepare officers for complex warfare.[15] Institutions devoted to officer training led to military academies during the same century. These military schools formed historical military education systems that influenced military practice around the world by establishing standardized training procedures and structured curricula. Military education methods then and now have been greatly affected by the requirements for professionalization in the military.

An ongoing evolution is reflected by the history of international military learning communities that is driven by technological ad-

[15] "Exploring Historic Military Education Systems: A Comprehensive Overview," *Total Military Insight*, 16 July 2024.

vancements, changing educational paradigms, and the complexities of modern warfare. Recent studies highlight the importance of incorporating contemporary learning methods into military education. For instance, Jitendra Singh et al. emphasizes the effectiveness of hybrid learning approaches, which combine traditional face-to-face instruction with online learning.[16] This shift not only reflects changing educational paradigms, but also enhances the adaptability of military personnel in rapidly evolving environments. Moreover, military education systems have been significantly influenced by emerging requirements and trends. Emerging issues and operational threats highlight the need for armed forces worldwide to continually adapt their training methodologies.[17]

Aimao Zhang discusses the implications of prioritizing hard skills, noting that while they are indispensable for technical tasks, the neglect of soft skills has led to challenges for graduates in the workforce, where interpersonal skills are increasingly demanded.[18] This skill gap can hinder effective collaboration and adaptability in dynamic environment for both military contexts and civilian careers.

The changing landscape of military education is further reflected in the evolving role of teachers. Larisa Nikitina and Fumitaka Furuoka emphasize that the role of instructors is transitioning toward fostering student participation and engagement, thereby underscoring the importance of soft skills.[19] This shift indicates a recognition that effective teaching in military contexts requires more than just expertise in hard skills. Instructors must also cultivate an environment that enhances soft skills development among trainees and boosts their capacity for learning, communication, and personal growth.

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[16] Jitendra Singh et al., "Combining the Best of Online and Face-to-Face Learning: Hybrid and Blended Learning Approach for COVID-19, Post Vaccine, & Post-Pandemic World," *Journal of Educational Technology Systems* 50, no. 2 (2021): 140–71, https://doi.org/10.1177/00472395211047865.

[17] Tamir Libel, "Professional Military Education as an Institution: A Short (Historical) Institutionalist Survey," *Scandinavian Journal of Military Studies* 4, no. 1 (2021): 121–31, https://doi.org/10.31374/sjms.79.

[18] Aimao Zhang, "Peer Assessment of Soft Skills and Hard Skills," *Journal of Information Technology Education* 11 (2012): 155–68.

[19] Larisa Nikitina and Fumitaka Furuoka, "Sharp Focus on Soft Skills: A Case Study of Malaysian University Students' Educational Expectations," *Educational Research for Policy and Practice* 11 (2012): 207–24, https://doi.org/10.1007/s10671-011-9119-4.

Moreover, Sean C. McWatt notes that to better prepare students for real-world challenges, educational institutions must adapt to include soft skills training alongside hard skills.[20] This integration is necessary because soft skills facilitate effective communication, teamwork, and leadership. These skills are required for both of the actors in the teaching-learning scene: the learner and the instructor. Military students must develop soft skills throughout their military service. According to research conducted at Harvard and Stanford Universities, only 15 percent of career success is provided by the hard skills, while the other 85 percent comes from so-called soft skills. In this context, we can consider that "soft skills get little respect but will make or break your career."[21] They need teamwork, problem-solving, and decision making to be able to cope with their dynamic and complex work world.[22] Therefore, military higher education has to evolve toward advanced student-centered processes promoting students' well-being and improving their retention, which is required especially for volunteer militaries.[23] These objectives are unlikely to be reached without teachers acquiring a set of soft skills to play the role of the second actor. Higher education instructors require advanced competencies (e.g., project management, emotional intelligence, and neuro-linguistic programming) in addition to their hard knowledge to cope with the emotional and cognitive diversity of twenty-first century students.[24]

Methodology

Leveraging Project Management Tools and Skills for Teaching and Learning

Project management (PM) involves applying knowledge, skills,

[20] Sean C. McWatt, "Responding to COVID-19: A Thematic Analysis of Students' Perspectives on Modified Learning Activities during an Emergency Transition to Remote Human Anatomy Education," *Anatomical Sciences Education* 14, no. 6 (2021): 721–38, https://doi.org/10.1002/ase.2136.

[21] Kalytchak et al., *Soft Skills.*

[22] Laura G. Barron and Mark R. Rose, "Malleability of Soft-Skill Competencies: Development with First-Term Enlisted Experience," *Journal of Military Learning* (2021): 3–21; and Michael Kirchner and Kimberly O'Connor, "Incorporating Reflection Exercises to Identify Soft Skills," *Journal of Military Learning* (2018): 47–57.

[23] Cierra Kaler-Jones, *Soft Skills Development to Advance Student-Centered Higher Education* (Washington, DC: USAID, 2022).

[24] Antonio Ragusa et al., "High Education and University Teaching and Learning Processes: Soft Skills," *International Journal of Environmental Research and Public Health* 19, no. 17 (2022), https://doi.org/10.3390/ijerph191710699.

tools, and techniques to meet project requirements and to transform ideas into tangible results.[25] Incorporating project management into the teaching-learning mission helps organize content delivery, track progress, and improve engagement among participants. A research project entitled "Teachers' Development to Enhance Their Project Management Skills for Students" was launched to focus on the required PM skills for teachers and how it impacts the development of their students.[26]

Modern students need more than simple academic knowledge (e.g., reading, writing, and arithmetic) to survive in an evolving world. They need many life skills (e.g., communication, teamwork, and ethics), which are the everyday skills of project managers. As a student, organizing studying as a project can improve focus and effectiveness, making it easier to achieve learning goals. In the workplace (being a teacher, a military officer, etc.), structuring tasks as projects helps organize goals, allocate time and resources efficiently, facilitate collaboration, and foster productivity. Even for leisure activities, project-based engagement ensures a more enjoyable experience for everyone involved. These required PM life skills are defined by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) as "a group of cognitive, personal, and interpersonal abilities that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others, and cope with and manage their lives in a healthy and productive manner."[27]

Today's teachers should be considered project managers. They need PM skills to manage efficiently their course preparation, progress tracking, and classroom management.[28] Also, undergraduate and graduate students should be prepared as future project managers. They may acquire and practice twenty-first century compe-

[25] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 6th ed. (Newtown Square, PA: Project Management Institute, 2017).
[26] Chawalit Nukoonkan and Phrakru Dhammapissamai, "Developing Teachers to Enhance Project Management Skills for Students," *World Journal of Education* 13, no. 1 (2023), https://doi.org/10.5430/wje.v13n1p58.
[27] John J. Byrne, "Project Management as a Twenty-first-century Life Skill" (paper presented at PMI Global Congress 2010–North America, 12 October 2010, Newtown Square, PA).
[28] April J. Miller and Brenda Clark, "Teachers as Project Managers: Leveraging Project Management to Build Exemplary CTE Programs," *Techniques* 92, no. 8 (November–December 2017).

tencies through project-based learning (PBL), which is inspired by project management. It is an essential practice that provides real-world context for the students to develop critical thinking, verbal and nonverbal communication skills, collaboration, creativity, and risk taking.[29]

PM tools are recognized worldwide, thereby adding value to adult training programs by aligning them with actual standards and best practices. These tools can be tailored to provide an effective learning management system that enables both trainers and trainees to track progress and enhance accountability. SMART goals—specific, measurable, achievable, relevant, and time-bound—help them move forward by setting learning objectives. Tools like Gantt charts and kanban visualization boards help create clear timelines and milestones, providing learners with a structured learning path to follow. Also, they facilitate collaboration among learners, enabling them to share ideas and resources, make collaborative progress, and exchange feedback effectively. Instructors using these tools will be able to provide timely evaluations of learner progress and areas for improvement. Many project management techniques are adaptable to different learning styles and needs, making it easier to customize the learning experience since information is absorbed differently among students. Detailed classification methods will be provided in the following sections on NLP and EI skills.

PM communication strategies facilitate clear and effective interaction among trainers and trainees.[30] The instructor must use a combination of styles to ensure that they reach all the trainees. When educators plan communications upfront, they enable improving the effectiveness of communications overall, including content and quality, keeping students engaged in the initiative through open communications, and getting them involved in communications by enabling more effective two-way conversations.

Moreover, using different forms of power, trainers can develop a harmonious learning environment and ultimately promote the success of the course. Here, the term *power* refers to the ability to influence the behavior and decisions of others, often to achieve the

[29] Melanie Baird, "Project Based Learning to Develop 21st Century Competencies," in *Technology and the Curriculum: Summer 2019*, ed., Robert Power (Canada: Ontario Tech University 2019).
[30] Byrne, "Project Management as a Twenty-first-century Life Skill."

desired result. It is a means of inspiring trainees, motivating them, and guiding the course toward its goal. Power dynamics play an important role in class management and shape the interaction between the coach, the trainee, and all stakeholders. It informs who is in charge, how decisions are made, and how tasks are assigned and completed. The dynamics of power can foster a collaborative environment where coaches can motivate and inspire students toward common goals.[31]

Conversely, mismanagement of power dynamics can lead to conflict, hamper communication, and prevent course progress. The ability of a teacher may come from a variety of sources, including knowledge, position, or reward/punishment ability. Instructors hold different types of power:

1. Positional power, or legitimate power, stems from their formal position as a trainer;
2. Referent power stems from the appreciation and respect identification that an individual saves for a leader;
3. Expert power stems from knowledge, skills, or expertise in a particular field;
4. Reward power stems from the ability to reward. In military education, teachers may exercise reward powers by offering incentives such as bonuses, promotions, recognitions, or desirable assignments to motivate students; and
5. Coercive power comes from the ability to impose penalties or remove rewards. The trainer has the power to impose coercion when disciplining students who do not comply with military standards or violate classroom charter.

Information power arises from access and control of valuable or exclusive sources of information.[32] The authors combined these powers during courses depending on the learning subject, the students' skill level, and their behavior. For example, teaching first-class cadets differs from the final year. The instructor in an undergraduate class may combine positional, coercive, and referent powers to keep aligned with the focus on adapting from

[31] Byrne, "Project Management as a Twenty-first-century Life Skill."
[32] Byrne, "Project Management as a Twenty-first-century Life Skill."

civilian to military life and ensuring effective learning. This combination can be found in the profile of military professors, which guarantees continuity and homogeneity during military education, aligning teaching methodology with the evolving stages of cadets. Effective teaching of graduate cadets can leverage expert power to set higher expectation standards, reward power to recognize their achievements, and information power to foster a culture of self-learning.

Furthermore, the instructor can lead the course and the class in many ways leveraging various PM leadership styles.[33] They should bring a tailored style depending on the characteristics of the trainees (e.g., moods, needs, and behaviors) that they can detect leveraging NLP and EI skills that will be detailed in the following sections. Also, they should adapt their style to the characteristics of the organization (e.g., structure, goals, and culture). The instructor may combine the following leadership styles. Laisser-faire leadership lets the trainees lead themselves to complete their assigned tasks. This style makes them more creative and innovative. A transactional leader uses reward and punishment to ensure discipline in implementing rules and values. This style is effective for short-term goals enhancing motivation. Servant-style leadership is based on the trainer's focus on trainees learning, prosperity, and wellbeing. It creates a strong relationship between them, which is required to reach the course objectives and the shared success. Transformational leadership is based on leading by inspiring, empowering, and encouraging. It can be done by sharing the organizational vision, mission, and future goals thereby enhancing the proactivity, enthusiasm, and commitment that are required in a military context. Charismatic leadership is required for an effective instructor, it includes self-confidence, charm, and strong belief in the learning subject and the ultimate goal.

As a result, incorporating these tools into the teaching-learning process leads to an effective, well-organized, and inspiring teacher and a more engaged and creative learner who is adaptive and resilient to future uncertainties.

[33] Byrne, "Project Management as a Twenty-first-century Life Skill."

Emotional Intelligence (EI): A Motivator for the Educational Process

Emotional intelligence is considered one of the most essential soft skills, and it is especially critical for harmonious and successful work teams. For this reason, it has received widespread attention from practitioners around the world.[34] This concept is proving extremely helpful in illuminating certain leadership skills. In this context, it is clear that emotions are essential for effective decision making, because emotions drive memory, learning, and motivation, but they are also an essential part of cognition rather than a separate process.[35]

Emotional intelligence is a set of emotional and social skills that becomes a keystone of every aspect of the life-work equation. It is considered the knowledge of emotional information. In this context, EI is the potential to recognize, acknowledge, differentiate, and analyze emotions; the capacity to reflect on emotions and their origins; and the competency to handle emotions and those of others. In other words, EI refers to an individual's ability to identify, perceive, understand, assess, manage, regulate, and apply their own and others' emotions thanks to its different aspects. Self-awareness, for example, is an important aspect of EI, as it enables people to distinguish between an emotional and emotionally intelligent person, as well as to understand and solve the imbalance between intellect and emotion.

Although emotional intelligence is a relatively new and growing area of behavioral research, it becomes so necessary for effective and outstanding work performance that it has caught the imagination of the general public, the commercial world, and the scientific community. EI connects with several cutting-edge areas of psychological science, including neuroscience of emotion, self-regulation theory, studies of metacognition, and the search for hu-

[34] James D. A. Parker et al., "Emotional Intelligence and Student Retention: Predicting the Successful Transition from High School to University," *Personality and Individual Differences* 41, no. 7 (2006): 1329–36, https://doi.org/10.1016/j.paid.2006.04.022.

[35] Reuven Bar-On and James D. A. Parker, eds., *The Handbook of Emotional Intelligence: The Theory, Development, Assessment, and Application at Home, School, and in the Workplace* (San Francisco, CA: Jossey-Bass, 2000).

man cognitive abilities beyond traditional academic intelligence.[36]

EI has received increased attention in recent years and had a positive impact on education, creating an emotionally healthy academic military environment in which bias and irrationality can be modulated and eventually overcome, which depends on developing this skill on behalf of teachers.[37] Furthermore, adopting a learner-centric approach based on emotional intelligence and the implementation of these soft skills in advanced military education is not a trend or luxury but it has become necessity.

Teachers in the military environment are encouraged to develop this skill because it is important for them to be aware of their emotions by identifying, understanding, and accepting them. It is evident that this process takes time since it requires them to assess the strengths, weaknesses, and triggers of their emotions, but it is important to make the appropriate decision. Also, it enables the teacher to understand the uniqueness of each student, taking into account their different profiles and styles and leveraging them to be more engaged in the process of learning and accept their emotions. In this context, experience shows that if the teacher in the military area understands and empathizes with their students' positive and negative feelings, the learning process will be fostered and active listening and effective verbal and nonverbal communication will be enhanced. Thus, this technique will prompt motivation, discipline, and consistency.

Regulating emotions is another undeniable aspect of EI, since it is the process of mentoring and handling feelings without giving up. It can be considered the key to consistency and perseverance until adopting a constructive solution. This step can lead to the self-motivation that helps build a lifelong learning mindset. Moreover, it can create an advantageous environment facilitating the learning process and accomplishing the learning objectives. Generally, it generates deeper commitment with the teacher. In such situations, emotions can lead people to act or react spontaneously,

[36] Moshe Zeidner, Gerald Matthews, and Richard D. Roberts, "Emotional Intelligence in the Workplace: A Critical Review," *Applied Psychology* 53, no. 3 (2004): 371–99, https://doi.org/10.1111/j.1464-0597.2004.00176.x.

[37] Giacomo Mancini et al., "Emotional Intelligence: Current Research and Future Perspectives on Mental Health and Individual Differences," *Frontiers in Psychology* 13 (2022), https://doi.org/10.3389/fpsyg.2022.1049431.

but being emotionally intelligent enables people to avoid this behavior or habit. So, regular connection with the students allows the teacher in advanced military education to help them handle their emotions when they are stressed or overwhelmed. When teachers become emotionally engaged with their students, they can easily break down barriers of bias and irrationality and replace those barriers with bonds of relationship and trust. Hence, relationships allow for more open and trusting communication.[38]

This element involves the graduate and undergraduate students in effectively regulating and managing their emotional responses, persisting in completing tasks, and overcoming obstacles. This means, being emotionally intelligent enables student to manage or control their life and be better adapted to challenging social environments. Since education constitutes only one chapter of the whole life, they should be armed with different skills that enable them to face the difficulties of life. This asset enables teachers of advanced military education to help students focus on their weaknesses, but also manage and boost their learning process. Supporting learners to deal with challenges related to learning through coaching and mentoring is key to cementing this relationship with learners and building the mindset of leaders. This area creates a safe practice zone to permit the learner to express themselves without any possibility of judgment or criticism. This safe zone can be reinforced thanks to feedback based on the Pygmalion effect that encourages the student to learn from their mistakes and be motivated, interested, and actively engaged in learning. To sum up, it leads to improved performance. Implementing the EI in advanced military education is a good opportunity to integrate such important values, like respect for diversity, problem solving, and consolidating the equity. The process of transferring this skill to the student enables the military and society to have a psychologically balanced person who know their boundaries and how to set boundaries for others. Emotionally aware teachers should keep these principles in mind and attempt to create an emotionally healthy environment in which they deal with natural tendencies towards bias and irrationality. As a con-

[38] L. Mills, James McDowelle, and William Rouse Jr., "Hard Science and Soft Interpersonal Skills," *Academic Leadership: The Online Journal* 8, no. 4 (Fall 2010), https://doi.org/10.58809/WALB9232.

sequence, "emotional engagement is the essence of information processing and learning."[39]

When applying emotional intelligence in courses, it helps the instructor boost the creativity of the students. Having the same experience as their students facilitates the instructor's mission as it permits them to be aware of their emotions and offers the possibility to manage them. This methodology is beneficial in class because teaching some courses related to public international law, for example, is a good opportunity to motivate students to achieve their learning outcomes. This competency builds a culture of continuous learning. Moreover, EI reinforces the rapport with students and creates a meaningful connection with them. Learning is indeed a cognitive function but it includes emotions that create an affective link between pedagogy and psychology aspects.

Human beings are naturally social beings who need to create strong and harmonized relationships and want to be surrounded by likeminded individuals. This approach requires emotional and thought comprehension to promote a positive mental state and decrease worry and fear. For this reason, it is crucial to establish an EI-centric learning environment based on empathy and understanding between teachers and military students.

Neuro-Linguistic Programming: A Path for Excellence

Neuro-linguistic programming (NLP) is an emerging psychotherapeutic technique that facilitates understanding and interpreting behavioral and thought changes.[40] It can be defined as a pseudoscience that facilitates the way to be the best version of yourself, because it is a powerful method to change thoughts, beliefs, and habits. This technique studies brilliance and quality by identifying how successful and outstanding individuals and organizations reach their ideal goals.[41] Furthermore, NLP is considered an efficient tool to get out of the comfort zone and to deal successfully

[39] David Brooks, "A Critique of Pure Reason," *New York Times*, 1 March 2007, A18.

[40] Jackie Sturt et al., "Neurolinguistic Programming: A Systematic Review of the Effects on Health Outcomes," *British Journal of General Practice* 62, no. 604 (November 2012): 757–64, https://doi.org/10.3399/bjgp12x658287.

[41] Neda Hedayat, Reza Raissi, and Solmaz Azizzadeh Asl, "Neuro-linguistic Programming and Its Implications for English Language Learners and Teachers," *Theory and Practice in Language Studies* 10 no. 9 (September 2020): 1141–47, https://doi.org/10.17507/tpls.1009.19.

with self-sabotage. For this reason, it can be defined as the psychology, science, and art of excellence.[42]

NLP is the result of the research done in the 1970s by mathematician and data researcher Richard Bandler and language expert John Grinder, who realized that successful people have in common such habits. In this context, they investigated the internal and external behaviors that affected some therapists like Virginia Satir, Milton H. Erickson, and Frederick S. Perls and found them to be more influential than others.[43] Based on the linguistic analysis of therapists, they developed an effective therapeutic approach called Metamodel. It is based on verbal and nonverbal communication that creates thought models and improves the physical and emotional state. Metamodel identifies specific skills that can be developed to achieve excellence and teach or impart them to others and help them enhance their performance. In sum, NLP is an important tool to connect with the environment and to communicate positively, as it links language with experience and demonstrates the translation of thoughts into words.

NLP is the study of what effective individuals do and how they do it.[44] It can be defined as the mechanism of self-improvement or the process of modeling human experience and communication skills to improve interpersonal and intrapersonal capacity for a sustainable and effective relationship with others.[45] Furthermore, NLP offers useful methods to communicate with the brain and program or reprogram the unconscious side through the following axes:

1. Neuro is the neurological system that affects the individual's feelings, attitudes, and behavior.
2. Linguistics is the internal representation code that facilitates sharing experiences and communication among individuals.

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[42] Oscar Massimo Maisenbacher, "Neuro Linguistic Programming (NLP) as a Communication Tool for Management" (thesis, University of Johannesburg, 2013).
[43] M. J. Ahmadian, "Neurolinguistic Programming," in *The TESOL Encyclopedia of English Language Teaching* (Leeds, UK: TESOL International Association and Wiley, 2018), 1–5, https://doi.org/10.1002/9781118784235.eelt0171.
[44] Mitra Rayati, "Neuro-linguistic Programming and Its Applicability in EFL Classrooms: Perceptions of NLP-Trained English Teachers," *Language Teaching Research Quarterly* (2021): 44–64, https://doi.org/10.32038/ltrq.2021.24.03 3.
[45] Rayati, "Neuro-linguistic Programming and its Applicability in EFL Classrooms."

3. Programming represents how individuals translate their experiences to achieve the desired results.[46]

According to various definitions, NLP operates as a set of techniques rather than a theoretical framework.[47] In therapeutic settings, it addresses mental health issues, and in education, it enhances teaching methods for more engaging and effective learning experiences.[48] In fact, as a technology of behavior, NLP gained widespread recognition for its role in communications and personal development, and it has become familiar in the education sector.[49]

As NLP translates thoughts into words and facilitates the connection between internal and external structure, it is evident that it aims to address learners' challenges like habit disorders, learning difficulties, anxiety, stress conflict, and time management. NLP also helps students overcome their limiting beliefs by identifying and modifying restrictive behavior to achieve their learning goals. This approach provides a more pragmatic and optimistic perspective on cognitive processes, enhancing an individual's effectiveness as a learner regardless of age, and offers effective strategies for developing cognitive skills in students.[50] In connection with this advantage, NLP enables students to gain more flexibility and creativity,

[46] Hakan Turan, Keziban Kodaz, and Gokmen Turan, "The Effect of NLP Education on the Teaching Profession in Turkey," *International Journal of Educational Sciences* 15, nos. 1–2 (September 2016): 120–25, http://dx.doi.org/10.1080/09751122.2016.11890520.

[47] Hiba Chehabeddine et al., "Exploring the Efficacy of Neuro-linguistic Programming in Alleviating School Challenges among Primary Schoolchildren in Lebanon," *Applied Psychology Research* 2, no. 1 (2023), https://doi.org/10.59400/apr.v2i1.551.

[48] Subba Nisha M and V. Rajasekaran, "Neuro-Linguistic Programming (NLP) Techniques: A Therapeutic Approach to Enhancing the Presentation Skill of Engineering Students," *IUP Journal of English Studies* 15, no. 1 (2020): 81–101.

[49] Jahanzeb Jahan, Minahil Tariq, and Mubashar Nadeem, "The Effects of Neuro-linguistic Programming on a Psychotherapist's Communication Patterns: A Case Study," *Journal of Development and Social Sciences* 3, no. 2 (April 2022): 130–40, http://dx.doi.org/10.47205/jdss.2022(3-II)13.

[50] Farah Hashmi, "Nourishing Critical Thinking Skills Using Neuro-Linguistic Programming," *Pakistan Journal of Education* 39, no. 1 (2022); and Angelica Narcisa and Jose Alberto Vigueras Moreno, "Neuro-linguistic Programming in the Teaching-learning Process of English as a Foreign Language," *PalArch's Journal of Archaeology of Egypt/Egyptology* 18, no. 4 (2021): 5566–76.

develop independent behaviors, and create more opportunities to succeed.[51]

Hence, NLP is recognized as an assistive technology to help educators and learners cultivate skills, including academic success, emotional intelligence, self-confidence, empathy, people skills, and leadership skills.[52] It has become prevalent in education and teaching, and it can have amazing results in the military education.[53] It empowers teachers to gain a deeper insight into how students learn by understanding the cognitive process.[54] For advanced PME, mastering the concepts of NLP, understanding its presuppositions, and practicing its different techniques are necessary tools that the teacher must possess. The NLP enables educators in the military environment to embrace different learning approaches and acknowledge each student's individuality, recognizing that each possesses a distinctive learning style.[55] Some of them are more visually oriented than others and want to see charts and diagrams; others prefer to get information communicated through presentation; and others want to receive information beforehand so they review and analyze it on their own and then speak about what they have read. When instructors present information to students in only one or two ways, they engage some and not all of them.

Communication is one of NLP's pillars for all careers and the key to the success of a teacher, and it is considered a strong tool "for effectiveness in the teaching profession" because it reflects their performance in the classroom and their ability to share information and understanding smoothly. In addition, it creates a positive learning environment through increasing self-esteem and

[51] J. Bigley et al., "Neurolinguistic Programming Used to Reduce the Need for Anaesthesia in Claustrophobic Patients Undergoing MRI," *British Journal of Radiology* 83, no. 986 (2010): 113–17, https://doi.org/10.1259/bjr/14421796.
[52] Cristina-Mihaela Zamfir, "The NLP Model of Communication," *British and American Studies* 21 (2015): 225–28.
[53] Fahimeh Farahani, "The Effect of Neuro-Linguistic Programming (NLP) on Reading Comprehension in English for Specific Purposes Courses," *International Journal of Education and Literacy Studies* 6, no. 1 (2018): 79, https://doi.org/10.7575/aiac.ijels.v.6n.1p.79.
[54] Chehabeddine et al., "Exploring the Efficacy of Neuro-linguistic Programming in Alleviating School Challenges among Primary Schoolchildren in Lebanon."
[55] Sana Gran, "Using NLP (Neuro-Linguistic Programming) Methods in Teaching and Learning: Case Studies on the Potential and Impact of NLP Methods on Learning and Learners" (PhD diss., Universität Duisburg-Essen, 2020).

confidence.[56] Instructors in the military environment need to be highly skilled in this area to communicate effectively with graduate and undergraduate students and make the learning process easier and more understandable. Working on various competencies such as public speaking, active listening, and verbal and nonverbal language is essential for the success of a military instructor. These skills give them the power to motivate, influence, and involve their students in the learning process.

Teachers in PME should pay attention to their body language and be aware that body language including eye contact, facial expressions, and gestures carry significant weight as it constitutes 93 percent of personal communication. Nonverbal communication is important as it can clearly reveal whether someone is comfortable, irritated, nervous, or happy. For verbal language, although it represents only 7 percent of communication, the spoken word is fundamental for good communication in concordance with nonverbal communication. Therefore, engaging in exciting conversation and establishing good understanding and successful interaction are skills that teachers should master (e.g., the capacity to choose their words and use the appropriate tone to attract attention and avoid distraction or disconnection). In this context, Hakan Turan, Keziban Kodaz, and Gokmen Turan demonstrated that communication based on NLP consists of three levels: matching, harmony, and calibration.[57] NLP offers various models, strategies, and tools for effective communication, change, and learning. Also, it influences, models, and builds rapport, including sensory learning styles, sensory modalities, or the VAKOG (visual, auditory, kinaesthetic, olfactory, and gustatory).

Generally, each individual has a dominant modality, or predominant representation system (PRS), and can be visual and think about visual experience, auditory involving retrieving memories through listening to sound, or kinaesthetic (e.g., internal sensation), olfactory, or gustatory. The PRS can be reflected through several behavioral aspects, such as verbal expression, body language, or

[56] Rifki S. Nompo, Andria Pragholapati, and Angela L. Thome, "Effect of Neuro-Linguistic Programming (NLP) on Anxiety: A Systematic Literature Review," *KnE Life Sciences* 6, no. 1 (2021): 496–507, https://doi.org/10.18502/kls.v6i1.8640.
[57] Turan, Kodaz, and Turan, "The Effect of NLP Education on the Teaching Profession in Turkey."

eye movement. People can learn or communicate through one of the three PRS or through the combination of two of them. Sensory awareness permits teachers in the military environment to observe and interpret nonverbal cues and behavioral patterns of others. The transmission of knowledge to graduate or undergraduate students depends on the capacity of the teacher to match the PRS of each student and the ability to harmonize speech, words, and body language. Thus, identifying students' PRS is essential to recognize changes in a student's body language, tone of voice, or any other sensory cues, and be aware of the level of understanding. Being able to choose the appropriate cognitive style for each student is one of the most important keys to fostering trust, confidence, and self-confidence, facilitating the learning process and emphasizing creativity.

NLP training offers teachers effective tools to implement its tools in their classes, which makes their courses greater, easier, and more understandable. This training is an excellent opportunity to discover, identify, and highlight the different preferences and styles of learners. Further, the Enneagram as a tool of communication enables them to discover and distinguish the different profiles of the students, which helps them to use the appropriate way to communicate with them. These techniques permit educators to take into consideration the learning style according to the needs and requirements of the learner. In this context, teachers can use PowerPoint presentations illustrated with pictures and videos to visualize some situations and invite them to create an internal dialog. In addition, using podcasts, storytelling, and quizzes can generate a debate between learners especially the auditory students who retrieve memories through listening to sound. Besides, preparing case studies and scenarios can easily involve kinaesthetic students. These tools foster their critical thinking and their capacity to solve problems through role-playing and debate, using books, articles, international treaties, reviews, and the internet. Mastering the art of communication and NLP tools is key to establishing significant and regular connection with students.

Being familiar with the NLP's concepts is necessary for advanced military education. It is a cornerstone to create and develop an area of comfort, trust, and confidence. Furthermore, it is important to encourage sensitivity to individual differences and cultural diver-

sity and accept the differences through the understanding one of the most important presuppositions, "a map is not the territory," which can build an academic background based on respect. This statement was published in *Science and Sanity* in 1933 by Alfred Korzybski.[58] It refers to the fact that each person experiences the world through their senses, which structure the territory. Then the individual takes this external phenomenon and makes an internal representation of it within their brain—the map.[59] In other words, even if human beings live in the real world, they do not operate directly or immediately on the world, but they operate within that world using a map or a series of maps to guide behavior within it. These maps or representational systems necessarily differ from the territory that they model.[60] The map is a person's understanding of the territory of reality. So, we should be careful to avoid the confusion between the models of reality with reality itself, as people generally act according to the way they perceive the world. This presupposition is helpful in military education as it focuses on the recognition of several realities and different perceptions. Also, it refers to the ability to see and understand things from different perspectives, which requires accepting others' people's points of view. As a result, making "a map is not the territory" a rule in the classroom can guarantee respect for different opinions and all perceptions, cultures, and backgrounds. Imposing this rule in the classroom charter, especially between undergraduate students, is the first step to accepting the "other" who is not an enemy. This background is practical and beneficial because it promotes the creation of a safe zone of trust and confidence not only between students and teachers but also between students. This method encourages them to develop their talent and have a well-developed and positive perspective and perception toward life and learning.

When the instructor of professional military education masters and practices various NLP techniques (e.g., anchoring, mirroring, and submodalities), students will gain more flexibility and creativity, but they also will be more independent and take initiative to create

[58] Alfred Korzybski, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (New York: Institute of General Semantics, 1933), 58.
[59] Romilla Ready and Kate Burton, *Neuro-Linguistic Programming for Dummies* (Chichester, UK: John Wiley & Sons, 2004), 18.
[60] John Grinder and Richard Bandler, *The Structure of Magic*, vol. 1, *A Book about Language and Therapy* (Palo Alto, CA: Science and Behavior Books, 1975), 3.

more opportunities to succeed. NLP is essential to positively impact academic achievement and performance, programming and reprogramming minds, improving communication, and enhancing self-management (including self-motivation, personal responsibility, goal setting, time management, and self-awareness). NLP becomes relevant for the development of teaching and learning, and according to Richard Paul, it is "thinking about your thinking while you're thinking to make your thinking better."[61]

Critical thinking can be developed through NLP, it is defined as a process of analyzing and synthesizing. It is the ability to evaluate information collected or generated through reflection, reasoning, or communication to produce valid, strong, and durable arguments and conclusions that can provide evidence.[62] This skill is vital for teachers and students because it enables them to make wise decisions, understand the concept deeply, observe and analyze the facts logically, establish better findings, and generate alternate solutions to problems. With the help of critical thinking skills, a person can face the challenges in the world.[63] It also optimizes students' creativity, and the ability to think by the rules of logic and probability. It offers different ways to analyze information, apply knowledge, analyze images, and solve pedagogical situations. In this regard, graduates and undergraduate students of advanced military education who can think analytically and critically can enhance their lives and contribute to their society, culture, and civilization. This skill provides the student in the military environment with a more insightful understanding by identifying their weaknesses and strengths, which enables them to face real-life challenges and solve problems. More precisely, it emerges as fundamental for enjoying a good quality of life. In addition, the different skills developed by neurolinguistic programming offer the opportunity to be open-minded and objective but avoid judgment based on their point of view.

[61] Richard Paul, "The Process of Critical Thinking," Bartleby, accessed 6 December 2024.

[62] Ihtiari Prastyaningrum et al., "Analysis of Creativity and Critical Thinking Skills through Project-based Learning of Smart Solar Panel System," *Journal of Instructional and Development Researches* 4, no. 3 (2024): 97–104, https://doi.org/10.53621/jider.v4i3.308.

[63] Didimus Tanah Boleng et al., "The Effect of Learning Models on Biology Critical Thinking Skills of Multiethnic Students at Senior High Schools in Indonesia," *Problems of Education in the 21st Century* 75, no. 2 (2017): 136–43, http://dx.doi.org/10.33225/pec/17.75.136.

In sum, NLP is a great tool in general for human beings and specifically for graduates and undergraduates in advanced military education as it is the key to change. It enables teachers in the military area to influence the behavior patterns of their students by influencing their thoughts toward their personal and professional objectives.

Thus, beliefs and values can be reframed and reprogrammed to design and get a better future. Change in beliefs and values will lead to change in the individual attitude and, in turn, change the behavior.[64] This mechanism improves their perception of self-efficacy regarding goal setting and motivation. Since military students need the flexibility to face the rigidity of the world and achieve their desired outcomes, they should be convinced that they have all the resources and the potential they need to realize their professional and personal SMART objectives. This is an excellent way to cope with worry and dread and cultivate the attitude of "it is possible" and "I can." This presupposition facilitates changing the perception of students toward success and failure, which contributes to the development of the culture of feedback. From failure, a person receives feedback that is required to change or adjust the behavior according to the plan and attain success.

It is important to conclude that implementing the NLP in advanced military education is undeniable, it enhances the teaching-learning process and the quality of the learning environment. This environment actively engages graduate and undergraduate military students in the process of learning and helps stimulate development and improve their performance. Additionally, the coaching and mentoring of military students based on NLP enable them not only to be more efficient, self-confident, creative, innovative, and motivated to achieve their desired goals easily but also to improve their leadership, soft skills, and emotional intelligence.[65]

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[64] Patrick Jemmer, "Beliefs, Values and the Vacuum of Choice," *European Journal of Clinical Hypnosis* 6, no. 4 (2006).

[65] Hava Gökdere Çinar and Ulku Baykal, "Determining the Effect of Neuro-linguistic Programming Techniques on the Conflict Management and Interpersonal Problem-solving Skills of Nurse Managers: A Mixed Methods Study," *Journal of Nursing Management* 30, no. 1 (2021): 104–34; and Xiuyun Zhang, Nikoo Davarpanah, and Siros Izadpanah, "The Effect of Neuro-linguistic Programming on Academic Achievement, Emotional Intelligence, and Critical Thinking of EFL Learners," *Frontiers in Psychology* 13 (2023), https://doi.org/10.3389/fpsyg.2022.888797.

Results and Discussion

This research highlights the importance of implementing soft skills in the learning process and the military environment. The objective of this article is not to define or distinguish, for instance, project management skills, emotional intelligence, or neuro-linguistic programming, but rather how we can leverage these skills to reinforce, promote, and foster advanced military learning.

Incorporating the tools and techniques of project management, which are recognized around the world, in military education permits the transfer of some skills like time management, conflict management, teamwork, and effective communication to military students. This discipline is based on the planning, organization, and execution that help the student succeed in a project-based learning process and be prepared for the modern work environment. Also, it helps the instructor prepare courses and manage lessons efficiently. As a project manager, the teacher should be able to tailor their power and leadership style depending on the course, institution, and student profiles that can be detected through NLP and EI skills.

Emotional intelligence can positively influence the teaching-learning process. Being empathetic and aware of others' emotions toward them facilitates and empowers the learning process. Learners with a high degree of emotional intelligence have good academic experience, and teachers who are emotionally intelligent are the most powerful factors of learning motivation. It is a kind of interdependence between the emotional intelligence and the motivation of military students because emotionally intelligent students can adjust their emotions and adapt them to the environment. Briefly, it is the ability to handle positive and negative feelings and use them effectively to achieve different types of goals. Also, an empathetic instructor influences students' thinking, thoughts, beliefs, and behavior because this quality makes them trustworthy. Being conscious of students' emotions and being able to assess their feelings in any situation will help to keep the students in the military environment engaged and enable teachers to understand their mindset, behaviors reactions, and even stress levels. This is a pillar to realize exceptional outcomes. In sum, EI has a positive effect on people and students' ability to control their own emotions and identify others' emotions. In addition, this skill

might maintain a clear mind that guarantees to make the best decision. In this vein, we should notice that recent studies have found a facilitative effect of emotional intelligence on student learning.[66] Furthermore, people with higher emotional intelligence have good self-efficacy, which allows them to promote their ability to problem solve and deal efficiently with challenges, problems, and conflicts.

Neuro-linguistic programming is a set of principles and tools that can generate excellence. To achieve this objective, NLP is based on four fundamentals such as having a clear idea of what someone wants, it is the identification of direction and outcomes, getting the unconscious mind's attention, knowing if you are receiving what you want, and adjusting your actions accordingly. It is the study of how the brain works and how we can program it for our benefit. Research shows that this skill is useful in military education and helps to enhance the teaching and learning process.[67] NLP can also improve the quality of the learning environment due to the development of a stronger relationship between teachers and students, but also it contributes to creating an interactive and positive learning environment. Moreover, NLP techniques—modalities and submodalities, meta-model, modeling, calibration, and reframing the approach—make teachers aware of the students' competencies and enable them to provide stimuli connected to an experience of the learner through visual, auditory, and verbal anchors with effective communication and the art of feedback.

To conclude, these results reveal the complementarity and the interconnection of the provided ingredients (PM, EI, and NLP). The proposed recipe consists of being emotionally intelligent, acquiring and applying NLP's techniques and project management skills to improve the experience of both teacher and learner. This creates an area of confidence and self-confidence and boosts learning military environment.

Nevertheless, highlighting the important role of PM, EI, and NLP in military education is not enough if most instructors are unaware of their efficiency in creating an advanced military education. For this reason, instructors must be encouraged to train for and be receptive to the applicability of this recipe in military education.

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[66] Kaler-Jones, *Soft Skills Development to Advance Student-Centered Higher Education*.

[67] Kirchner and O'Connor, "Incorporating Reflection Exercises to Identify Soft Skills."

Conclusion

This article synthesizes existing research findings on military education, highlighting the changes in educational requirements and the implications for future training programs. While significant progress has been made in improving military education through collaborative and technology-enabled methods, more research is required to address existing knowledge gaps and optimize military personnel's learning experiences in an increasingly interconnected world. A notable development in military education requires a shift in the skills considered necessary for both instructors and students. For the long term, hard skills like technical proficiency and tactical knowledge have been the main focus of military training in the past. Research in the last few years has shown that soft skills like leadership, teamwork, and communication are becoming increasingly important in military education.

Project management, emotional intelligence, and neuro-linguistic programming are proposed in this article as the necessary ingredients of a new recipe for an advanced military learning mindset. These soft skills are important for educators to manage the teaching process efficiently from preparing lessons to inspiring students to be creative and future leaders. Also, they help to develop and adjust thoughts, promote a positive attitude, and motivate the learners to be more committed. By integrating such innovative practices and fostering international collaboration, military learning communities can adapt and thrive in the face of emerging challenges.

About the Authors

Dr. Maroua Cherni is an assistant professor in the Department of Law and Management Sciences at the Tunisian Military Academy. She is a trainer of trainers in international humanitarian law and an NLP master practitioner. She is certified in leadership, communication, and Enneagram.
https://orcid.org/0009-0006-0216-0472

Dr. Ing. Feten Slimeni is an assistant professor at the Department of Telecommunication Engineering at the Tunisian Military Academy and a researcher at the Military Research Center. She is a trainer of trainers in advanced teaching techniques and she is certified in PMP, leadership, and communication.
https://orcid.org/0000-0003-0281-924X