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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

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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-

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[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

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[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 multi-dimensional 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 pre-planned 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

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[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	Multiculture Communication	HA/DR introduction Academics	HA/DR practical exercise
1100–1200				
	Stages and process			
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.

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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). Complimenting 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

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[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-

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[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 post-secondary 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.

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