

MSOTL

2023 Military Scholarship
of Teaching and Learning Forum

EVENT PROGRAM

DECEMBER 7 - 8



A Hybrid Conference Hosted by the
Air University Teaching and Learning Center
& Marine Corps University

WELCOME TO MSOTL!

| | |
|--|-------|
| Welcome..... | 3 |
| Schedule Information..... | 5 |
| Day 1 Agenda..... | 6-7 |
| Day 2 Agenda..... | 8-9 |
| Featured Speakers..... | 10-11 |
| Speaker Biographies..... | 12-15 |
| MSOTL Agenda with Research Abstracts - Day 1 | 16 |
| MSOTL Agenda with Research Abstracts - Day 2 | 26 |
| MSOTL On-Demand Sessions | 35 |

 Air University Teaching & Learning Center

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#MSOTL

MSOTL
2023 Military Scholarship
of Teaching and Learning Forum

Welcome to the 4th annual Military Scholarship of Teaching and Learning Forum (MSOTL Forum), hosted in person at Marine Corps University and on-line.

In 2019, a small group of military educators from across the U.S. and Canada came together at the InterUniversity Seminar on Armed Forces & Society to collaborate and promote decision-making in military education through the lens of the scholarship of teaching and learning. Several months later in 2020, the first MSOTL Forum came to life—hosted by Dr. Megan Hennessey and her colleagues at the Army War College. In 2021-2022, the virtual Forum was hosted by Dr. Hennessey in her capacity as the Director of the Air University Teaching and Learning Center. We are so proud to see how this event continues to meet our initial objectives and spark innovation in educational research specific to military learners.

This is the first year that the Forum will offer an in-person option, and we are thrilled to be able to see our colleagues come together to re-connect and collaborate here in Quantico. We are especially looking forward to our two in-person keynote speakers, Dr. Liz Cavallaro from the Naval War College, and Dr. Gerard Puccio from Buffalo State University. Dr. Cavallaro's presentation will be devoted to *Unboxing Our Roles as Military Educators* and Dr. Puccio's presentation focuses on *Creative Thinking as a Crucial Skill for Teaching and Learning*. We will also have the pleasure of hearing from BGen Maura Hennigan and Dr. Mark Conversino for opening and closing remarks, respectively.

Additionally, we encourage you to attend the workshop on "Publishing in the Scholarship of Teaching and Learning," held on 08 Dec from 1330-1430 ET. Dr. Keith Beurskens, representing the Journal of Military Learning, Dr. Paul Hoffman, Editor of the Air University Press, Ms. Angela Anderson, Editor of Marine Corps University Press, and Dr. William Eliason, Director, NDU Press, will share ideas on amplifying your research findings.

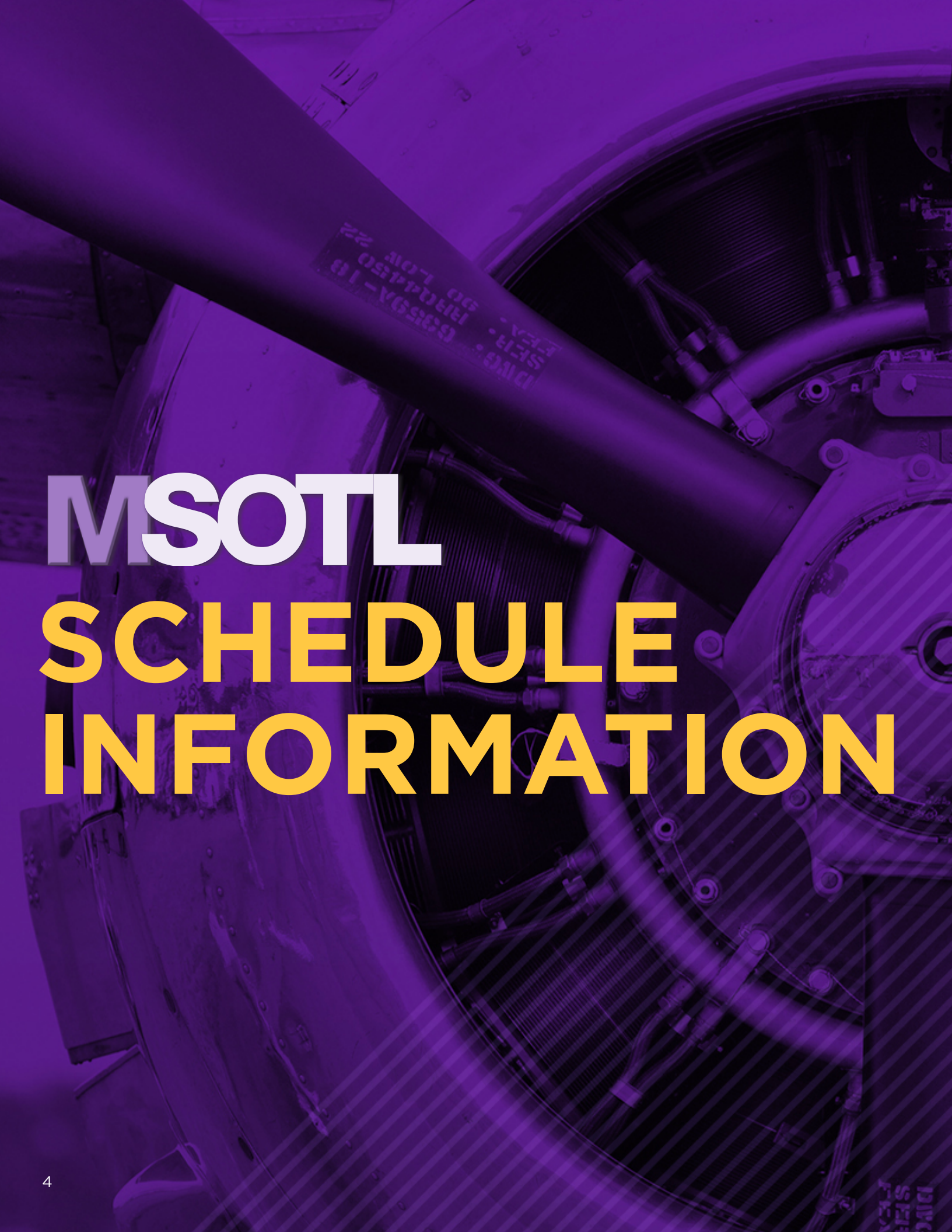
We hope you will consider sharing your experiences live during the conference on social media platforms using #MSOTLForum. Also, please keep in mind that after the Forum concludes, you can find recordings of several of the sessions at the MSOTL website:

<https://www.airuniversity.af.edu/TLC/MSOTL/>

Finally, it's never too late to think about next year's MSOTL Forum... where will your educational research take you? Reach out to us at Lauren.Mackenzie@usmcu.edu and Megan.Hennessey@usmcu.edu if you have questions about the scholarship of teaching and learning specific to military learning environments... let's keep the conversation going!

With our thanks for your ongoing support,

Lauren Mackenzie, Ph.D. and Megan J. Hennessey, Ph.D.



MSOTL SCHEDULE INFORMATION

The following schedule indicates research track via the following color codes:



| |
|---|
| Educational Technology |
| Assessment |
| Faculty Development |
| Learning Theories & Andragogy |
| Distributed Learning |
| Evidence-Based Instructional Strategies |
| Research Methods |



Indicates that the session has a virtual presenter

All times listed in the following schedule are in Eastern Time (ET).



DAY 1 SCHEDULE

| TIME (ET) | Warner Lecture Hall 1 | Warner Lecture Hall 3 | Warner Room 3144 |
|-----------|---|--|---|
| 0900-0915 | Welcome Remarks BGen Maura M. Hennigan Dr. Rebecca J. Johnson Dr. Lauren Mackenzie | | |
| 0915-1000 | Day 1 Keynote Dr. Liz Cavallaro | | |
| 1000-1015 | BREAK | | |
| 1015-1115 | <i>Panel</i> Creating a Community of Educators on Women Peace and Security Dr. Susan Yoshihara Dr. Grace Hoffman Ms. Neelima Grover | <i>20-Min Research Session</i> Creative Communities of Learners – The Auxiliary Engine to Andragogical Approaches Ms. Emilie Cleret Mr. Jerome Collin <i>20-Min Research Session</i> Making the Case for Differentiated Instruction: A Deep Dive into the Negative Effects of Unimodal Instruction Within Adult Military Learning Environments Maj Brad Kelly, Ed.D. | <i>Panel</i> Creating Teaching and Learning Communities in the USAF’s Leadership and Innovation Institute: From Mindset and Collaboration to Connections and Experience Dr. John Hinck Dr. Sara Kitsch Dr. Robert Hinck Dr. Steve Davis Dr. Mary Bartlett Dr. Andy Clayton  |
| 1115-1130 | BREAK | | |
| 1130-1230 | <i>Panel</i> Views from the Field: How Government Leader Development Researchers Leverage Learning Sciences Dr. Meghan Huntoon Dr. James Daugherty Dr. Greg Ruark Dr. Stefanie Shaughnessy Dr. Evan Hughes | <i>20-Min Research Session</i> A Systematic Review of Research in Distance Learning Dr. Rob Nyland <i>20-Min Research Session</i> Closing the Gap Between Intellect and Character in an Online Ethics Course COL Heather Smigowski, Ph.D. | <i>45-Min Research Session</i> Educational Wargaming: Analyzing War at Sea’s Impact on Learning Dr. Amanda Rosen Dr. Lisa Kerr  |
| 1230-1330 | LUNCH | | |





DAY 1 SCHEDULE

| TIME (ET) | Warner Lecture Hall 1 | Warner Lecture Hall 3 | Warner Room 3144 |
|-----------|--|---|--|
| 1330-1430 | Panel Staff Rides and PME - Bringing Critical Thinking to the Battlefield Dr. Bradford Wineman Dr. Christopher Stowe Dr. Paul Gelpi | 20-Min Research Session Was It Academic Performance, Meaningful Learning, or Both? Using AI to Decode the Skill-Environment-Learning Triad Lt Col Dwayne Clark, Ph.D. Col Daniel Javorsek, Ph.D. | 20-Min Research Session Enhance Military Student Motivation and Reduce Attrition Ms. Siyi Gao |
| | | 20-Min Research Session A Vision of Personalized Learning: MyJourney Dr. Ralucca Gera Dr. Mark Reith | 20-Min Research Session It's Not You...It's Us: Students and Experts Illuminate the Kaleidoscope of Toxic Leadership and Recovery Dr. Mara Robinson |
| 1430-1445 | BREAK | | |
| 1445-1545 | Panel Experiments, Assessments, and Collaborative Curriculum Development: The US Naval Community College's Evidence-Based Instructional Strategies Dr. Chuck Cushman Prof. Russell Evans Dr. Scott Hamm Prof. Daniel Goff | 20-Min Research Session Teaching and Learning Tactics in and Through Wargaming Debriefing Dr. Björn Sjöblom | 20-Min Research Session Strategic Approaches in Professional Military Education: Elements of Leadership and Strategic Decision Making Ms. Erica Haglund Dr. Linda Brent Dr. Celestino Perez, Jr. Dr. Megan J. Hennessey |
| | | 20-Min Research Session Increasing Inclusion in Classroom Discussion: The Raised Block as a Classroom Response System CAPT Bryan Leese, Ph.D. Dr. Amanda Rosen | 20-Min Research Session Generative AI In the PME Classroom: Lessons Learned Prof. Kristan Wheaton |
| 1545-1600 | BREAK | | |
| 1600-1700 | Evening Social All are welcome (MCU President's Distinguished Visitor's Lounge) | | |

DAY 2 SCHEDULE

| TIME (ET) | Warner Lecture Hall 1 | Warner Lecture Hall 3 | Warner Room 3144 |
|-----------|---|--|--|
| 0900-1000 | Day 2 Keynote Dr. Gerard J. Puccio | | |
| 1000-1015 | BREAK | | |
| 1015-1115 | <i>45-Min Research Session</i> What Do Creative Problem-Solvers Need? LtCol Tim Sparks | <i>45-Min Research Session</i> “But When Will I Use This in the Fleet?”: Simulating Military Professional Writing In the Undergraduate First-Year Composition Classroom Dr. Philip Garrow | <i>45-Min Research Session</i> Localized Professional Development: Creating Base-Level Solutions to a Military-Wide Problem Mr. Layton Graves  |
| 1115-1130 | BREAK | | |
| 1130-1230 | <i>45-Min Research Session</i> Thinking Like an Adversary: Developing Perspective Taking in Military Learners Dr. Allison Abbe | <i>45-Min Research Session</i> Enhancing Military Education Through Human-Intelligence Augmentation (HIA) Teams: An Intelligence Augmentation Strategic Avatar Initiative Dr. William Barry Dr. Kathleen Moore | <i>45-Min Research Session</i> Not-So-Artificial Intelligence: Teaching and Learning AI Literacy in a PME Community Kate Egerton Aileen Houston Dr. Sandra Leavitt Ms. Chloe Woida  |
| 1230-1330 | LUNCH | | |

DAY 2 SCHEDULE

| TIME (ET) | Warner Lecture Hall 1 | Warner Lecture Hall 3 | Warner Room 3144 |
|-----------|--|--|---|
| 1330-1430 | Panel Publishing in Military SOTL Dr. Paul Hoffman Dr. Keith Beurskens Ms. Angela Anderson Dr. William Eliason | <i>20-Min Research Session</i> Incorporating Generative AI into Curriculum: A Year of Learning's Impact on Trust and Adoption of AI Dr. Kathleen Moore Dr. William Barry | <i>20-Min Research Session</i> Cadet Perspectives on Teacher Advocacy in the Philosophy Classroom Dr. Stephen Finn  |
| | | <i>20-Min Research Session</i> Practical Exercise for Teaching Sociocultural Systems Thinking Skills to Army Leaders Dr. Stefanie Stancato Dr. Ava Loer | <i>20-Min Research Session</i> The Case for Developing a Specialized Military Corpus for Security Cooperation Language Training Ms. Jody Cicek  |
| 1430-1445 | BREAK | | |
| 1445-1545 | <i>45-Min Research Session</i> Enhancing Online PME Assessment: Design-Based Research for Rubric Development and Evaluation in the Global College of PME Dr. Rob Nyland Dr. Carl Watts | <i>45-Min Research Session</i> A Modular Rubric for Simultaneous Course and Program-Level Assessment Dr. Stephanie Hostetter Mr. Jon French  | <i>45-Min Research Session</i> Professional Military Education Faculty Experience within a Faculty Learning Community and its Interest in Learning Technology Integration Mr. Jonathan Zemmer  |
| 1545-1600 | BREAK | | |
| 1600-1650 | Closing Remarks | | |

FEATURED SPEAKER

*Dr. Liz
Cavallaro*

Professor of Leader Development
U.S. Naval War College



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“UNBOXING OUR ROLES AS MILITARY EDUCATORS”

This keynote offers an exploration of how we might re-orient our understanding of our roles as military educators. We'll consider how we can elevate our engagement with each other toward the creation of meaningful learning communities. With collaboration and curiosity across disciplines, together we can foster the practice of creative learning.



7-8 DEC 2023, ONSITE AT MARINE CORPS BASE QUANTICO, VA & ONLINE
[HTTPS://WWW.AIRUNIVERSITY.AF.EDU/TLC/MSOTL/](https://www.airuniversity.af.edu/TLC/MSOTL/)

FEATURED SPEAKER



*Dr. Gerard
Puccio*

Chair and Professor,
International Center for Studies in Creativity,
Buffalo State College

CREATIVE THINKING AS A CRUCIAL SKILL FOR TEACHING AND LEARNING

All sectors now recognize the crucial role creative thinking and creative problem-solving play in professional and personal success. LinkedIn, for example, identified creativity thinking as the number one workplace skill. The Joint Chiefs of Staff called out the need to promote creative thinking within professional military education. Additionally, longitudinal research of Army officers revealed that creative problem-solving was a major predictor of long-term leadership success. In the first quarter of the 21st century, there is a clarion call for greater levels of creative thinking, but how can this crucial skill be developed? The purpose of this keynote is to share fundamental principles associated with creative thinking, with a focus on how this critical ability can be facilitated through educational and training practices.



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SPEAKER BIOGRAPHIES

Brigadier General Hennigan

Brigadier General Hennigan was commissioned through Office's Candidate Course as a Second Lieutenant, June 1994 after graduating from Mary Washington College and studying abroad in 1993.

Brigadier General Hennigan has had the honor of commanding at various levels. She served as a platoon commander, C Company with 3d Support Battalion, 3d Force Service Support Group and as Headquarters and Services Detachment Commander, with Marine Expeditionary Unit Service Support Group 31, III Marine Expeditionary Force; Headquarters and Service Company Commander with 2d Radio Battalion, II Marine Expeditionary Force; Commanding Officer, Marine Wing Support Squadron 372, 3d Marine Aircraft Wing; and Commanding Officer Combat Logistics Regiment 3, 3d Marine Logistics Group.

Brigadier General Hennigan's staff assignments include: Protocol Officer, III Marine Expeditionary Force; Battalion S-4 at 2d Radio Battalion, II Marine Expeditionary Force; Facility S-4 and S-6, Marine Corps Air Station, Kaneohe Bay; G-4 Operations and Plans Officer, 3d Marine Aircraft Wing; G-4 Maritime Prepositioning Force Officer and G-4 Operations and Plans Officer, I Marine Expeditionary Force; and as the Chief of Staff for 3d Marine Logistics Group, III Marine Expeditionary Force.

In the Supporting Establishment, Brigadier General Hennigan served as a Legislative Liaison for the Office of Legislative Affairs, Headquarters Marine Corps and as the Director, Marine Corps Legislative Liaison Office, United States House of Representatives.

Brigadier General Hennigan's Joint and Coalition assignments include: G-3 Watch Officer, Marine Forces Europe, OPERATION IRAQI FREEDOM; Deputy, Plans and Programs Vulnerability Officer, J-3 and Deputy Capabilities and Plans Officer, J-8, United States Pacific Command; and CJ-4, Combined Forces Special Operations Component Command – Afghanistan and in Special Operations Command – Yemen, OPERATION ENDURING FREEDOM.

Brigadier General Hennigan is a graduate of The Basic School, Logistics Officer Course, U.S. Army Combined Logistics Captains' Career Course, and Marine Corps Command and Staff College. She attended the United States Institute of Peace as a Commandant's Fellow and studied Women's Peace and Security. Brigadier General Hennigan holds a Bachelor of Arts degree in International Studies from Mary Washington College and a Masters' Degree of Public Administration and Policy from American University.

Brigadier General Hennigan's personal decorations include: Legion of Merit (2), Defense Meritorious Service Medal (2), Meritorious Service Medal (3), Joint Service Commendation (2), Navy and Marine Corps Commendation Medal (2), and a Navy and Marine Corps Achievement.



Dr. Liz Cavallaro

Dr. Liz Cavallaro is currently a tenured Associate Professor of Leader Development at the U.S. Naval War College (USNWC), in Newport, RI. She is an Executive Coach, Adult Development Scholar, Educator, and Leader Development Practitioner. Her research interests include a range of topics relevant to the development of leaders, including cognitive development, coaching, self-awareness, organizational development, wellbeing, meaningful work, and eudaimonia.

At USNWC, she leads a graduate certificate program in leadership and ethics for a select group of students, the Stockdale Leader Development Concentration. She conducts research, builds curriculum, and teaches courses in the College of Leadership & Ethics. She works with mid- and senior-level Navy leaders to build self-awareness and enhance cognitive capacity through assessment-based and developmental coaching approaches.

Dr. Cavallaro is also an Adjunct Professor of Organizational Behavior at the Worcester Polytechnic Institute School of Business, teaching master's level leader development. Prior to her USNWC Appointment, she was an Adjunct Professor for the Women as Empowered Learners and Leaders program at Bay Path University in Burlington, MA, where she taught courses in Career and Personal Development, and Leadership in Practice. As a doctoral teaching assistant at George Washington University, she facilitated sessions in Leadership Theory and Research. Her dissertation research was an exploration of the experience of compassion fatigue and employee wellbeing among helping professionals. She holds an Ed.D. in Human and Organizational Learning and an M.A. in Organizational Management from George Washington University, and a B.A. in Organizational Communication and Public Relations from SUNY New Paltz.

She has been published in The Journal of Adult Development, The Learning Organization, the Oxford Handbook of Meaningful Work, Qualitative Health Research, Academy of Human Resource Development Advances, and the South Asian Journal of Global Business Research. She has presented scholarly papers at academic conferences such as the Military Scholarship of Teaching & Learning Forum, the International Leadership Association Conference, the Ethnographic and Qualitative Researchers Conference, the APA Work, Stress and Health Conference, the Academy of Human Resource Development Conference, and the University Forum for Human Resource Development.



Dr. Gerard J. Puccio

Dr. Gerard J. Puccio is the department chair and leader of the Center for Applied Imagination.

He has written more than 60 articles, chapters, and books. His most recent book, “Organizational Creativity and Innovation: A Personal Journey for Innovators and Entrepreneurs” (2018 by Sage Press), highlights the crucial role creativity plays in an economy driven by innovation. Prior to this publication, Puccio co-authored “The Innovative Team,” published by Jossey-Bass, a fable about a team that was able to apply proven creative-thinking tools to turn around a dysfunctional and unproductive situation.

Puccio is an accomplished speaker and consultant. He has worked with major corporations, universities, and numerous school districts. Some of his recent clients include the BBC, Fisher-Price Brands, Blue Cross Blue Shield, Nestlé, The Smithsonian Institution, BNP Paribas, Rubbermaid, Coca-Cola, and the Fashion Institute of Technology. He has delivered creativity workshops and presentations across the United States and in more than 20 different countries.



In 2013, Puccio was selected by the Teaching Company as one of America’s Great Lecturers and as such was invited to design and deliver a “Great Course” titled The Creative Thinker’s Toolkit. Dr. Puccio was also a featured speaker at a TEDx event held in New York City in December 2012. To date, his talk has over 100,000 views.

Dr. Mark J. Conversino

Dr. Mark J. Conversino is Provost and Chief Academic Officer, Air University, Maxwell Air Force Base, Alabama. In this role, as a member of the university's senior leadership team, he is the principal authority and executive-level advisor to the AU Commander and President, for all issues pertaining to academic programs across the university. This includes curriculum development, integration and assessment, institutional research, regional and specialized accreditation compliance, coordinating with Headquarters Air Force, major command staffs, and working with AU Center Commanders and School Commandants to ensure the quality and viability of their education programs.

He advises the AU Commander and school and center Commanders and Deans, on all matters relating to faculty, including recruiting, retention and development. He continues to teach in programs and courses across the university. Dr. Conversino specializes in military and airpower history and theory, Russian history and contemporary Russian foreign policy, military affairs and politics.

Dr. Conversino joined the Air War College faculty as a civilian following his retirement from the Air Force, serving as the college's Dean from 2008 to 2015. Prior to assuming his current position in 2019, he served as Deputy Commandant of the School of Advanced Air and Space Studies.



AGENDA WITH ABSTRACTS

- 0900-0915** **Welcome Remarks** | WARNER LECTURE HALL 1
BGen Maura M. Hennigan, Dr. Rebecca J. Johnson, & Dr. Lauren Mackenzie
- 0915-1000** **Day 1 Keynote** | WARNER LECTURE HALL 1
Dr. Liz Cavallaro
- 1000-1015** **BREAK**
- 1015-1115** **PANEL SESSION** | WARNER LECTURE HALL 1
Faculty Development
Creating a Community of Educators on Women Peace and Security
Dr. Susan Yoshihara, Dr. Grace Hoffman, & Ms. Neelima Grover

The panel explores ways of building a network of stakeholders that can create enthusiasm for new subject matter, lend authoritative support for it in the classroom and with other faculty, and progressively educate themselves and others in the subject matter. The goal is to prepare a community of educators to find increasing relevance of the new idea to their workforce as it faces changes in policy and in the security environment. The Women Peace and Security Act of 2017 requires the Department of Defense to train personnel in conflict resolution, mitigation, and prevention and to promote the participation of women in peace and security. DoD chose to implement the Act through security cooperation. The Defense Security Cooperation University (DSCU) trains, educates, and certifies the 18,000-strong DOD security cooperation workforce which engages partner nation militaries throughout the world. In 2020, Dr. Yoshihara (American Council on Women Peace and Security) was brought to DSCU to start the initial integration of the Act's requirements into selected DSCU courses. Her team created online learning modules that allowed students to gain fundamental knowledge while the faculty was trained in the subject matter. In 2021, Dr. Hoffman (Country Intelligence Group) began integrating WPS into courses for military planners and international officers. This presented a new set of opportunities and challenges, because the WPS mandate is different for each nation. Neelima Grover (Q2 Impact) and her team created a game that allows educators to learn to apply WPS to specific security cooperation activities. The game helps create a community by engaging players at various levels, geographic locations, specialties, and can engage partner nation officers as well. The community can then learn together as they play successive games.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3
Learning Theories & Andragogy
Creative Communities of Learners – The Auxiliary Engine to Andragogical Approaches
Ms. Emilie Cleret & Mr. Jerome Collin

The first part of this presentation describes a project that will bring together learners from different academies, colleges and institutes from NATO member and partner countries – France, Estonia, Australia, and Austria. All participants are learning French for specific purposes, either to join a PME course in France or to be deployed in a Francophone military environment. This community is exclusively composed of non-Francophone learners. They will, in full autonomy, design, organize,

AGENDA WITH ABSTRACTS

and deliver activities to the benefit of other learners, thus taking on a role as instructor. This project operates on one of the key principles of andragogy, which is to give the learner a leading role within the course. The community of learners will bring together those who are immersed within the target country and those who are learning the language in their home country.

The second part of this presentation will describe a project that brings together French officers studying at the French War College with native English-speakers through debate training. The goal is still to put the learners in an instructional role based on their field of expertise. The American students coach the French officers on key debating techniques (anatomy of an argument, warrant-building, rebuttal...) thus increasing their level of interoperability with their American counterparts for their future assignments. The French officers will mentor the American students in a policy competition guiding them in the process to build their policy proposal based on over 15 years of experience in the field. Thus, each learner sees himself/herself and other learners as having the potential to be knowledge brokers and instructors. This project creates a community to share cultural insights, thus bridging the key principles of andragogy and transformative learning.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Evidence-Based Instructional Strategies

Making the Case for Differentiated Instruction: A Deep Dive into the Negative Effects of Unimodal Instruction Within Adult Military Learning Environments

Maj Brad Kelly, Ed.D.

At the 128th Air Control Squadron, a Control and Reporting Center (CRC) within the Wisconsin Air National Guard, Air Battle Manager (ABM) instructors struggle with the fundamentals of serving in a teaching role. Most notably, during the unit's last deployment in support of operations in the skies over Iraq, Syria, and Afghanistan, a common deficiency in instructor proficiency was noted between the Air National Guard (ANG) and their Active Duty counterparts while deployed in a joint operational environment. This observation led to the implementation and recent completion of my doctoral-level study at Baylor University's Department of Education in Curriculum and Instruction. Additionally, examination of all possibilities of a deficiency in either overall training standards, modes of instruction, and instructional strategies for the Air National Guard's Instructor Upgrade (IUP) training program were observed to highlight deficiencies in education among the broader military learning environment.

The focus of this study was to identify the most significant areas of struggle Air National Guard ABM instructors experience and, more importantly, gain a better understanding of their perceptions toward the overall effectiveness of the current IUP training program. To uncover areas for growth in the current training, I utilized a qualitative intrinsic case study in a three-phased approach of analyzing artifacts and conducting both observations and semi-structured interviews. Furthermore, I rooted this study methodology and design in a theoretical framework most closely associated with social constructivism and andragogical principles of adult learning. Finally, the findings of this study indicate a lack of proficiency due to both an overreliance on unimodal instructional techniques and a lack of application of andragogical principles in the current training syllabus, which may have implications within the broader military learning environment.

AGENDA WITH ABSTRACTS

PANEL SESSION | WARNER ROOM 3144

Learning Theories & Andragogy

Creating Teaching and Learning Communities in the USAF's Leadership and Innovation

Institute: From Mindset and Collaboration to Connections and Experience

Dr. John Hinck, Dr. Sara Kitsch, Dr. Robert Hinck, Dr. Steve Davis, Dr. Mary Bartlett, & Dr. Andy Clayton

In 2017, Air University (AU) developed a conceptual Quality Enhancement Plan (QEP) to demonstrate “ongoing improvement of its programs/services and....how well it fulfills its stated mission”. The Leadership and Innovation Institute (LII) oversees the QEP and created a framework of strategic ethical leadership to enhance and reinvigorate the development of leaders. This QEP framework created deliberate and comprehensive leader development and innovation programs based on the substantive collection of assessment data from 13 targeted courses across 5 AU programs, including over 1,800 indirect assessments of student learning and over 2318 direct assessments of student work. The LII team is also responsible to “develop and deliver a continuum of leadership education, research and outreach for the Air Force” (LII website) as “the premier source for exemplary leadership development” that includes strengthening the three competencies that define an Ethical-Strategic Air Force Leader: Ethical Decision-Making, Empathy, and Fostering Innovation. While the QEP assessment strategy has collected valuable data related to student outcomes, faculty development, and improving ethical leadership, the more interesting discovery has been how LII has gone about their efforts that manifested in their programs being called “the best course in my military career” and “AU’s flagship course” along with other accolades of LII’s efforts relating to ethics, empathy, mental health, innovation, and leadership. The LII team sought to answer the research question “How did LII create a teaching/learning community?” Using document analysis and interviews, the cumulative coding process revealed that the LII teaching/learning community was created using four constructs: mindset, collaboration, connections, and experience, which adds a new framework to the literature. The six-person panel will share insights in three ways: their teaching/learning community, the four constructs, and highlight the cumulative outcomes relating to innovation, faculty development, empathy, ethics, mixed reality, and mental health.

1115-1130 **BREAK**

1130-1230 PANEL SESSION | WARNER LECTURE HALL 1

Learning Theories & Andragogy

Views from the Field: How Government Leader Development Researchers Leverage Learning Sciences

Dr. Meghan Huntoon, Dr. James Daughtery, Dr. Greg Ruark, Dr. Stefanie Shaughnessy, & Dr. Evan Hughes

Effective leaders are developed over their military careers so that when they step into roles of increasing responsibility and impact, they are prepared to successfully lead. Fueling this development is learning. Leaders must learn new skills, strategies, and information as they develop and grow over time. This learning takes place across instructional and operational environments, as well as through self-directed developmental practices. Learning is key to leader development. To better

AGENDA WITH ABSTRACTS

understand, develop, and create effective leader development tools, it is critical that we discuss how the U.S. Army considers learning research to create effective leader development tools. In this panel discussion, we bring together government researchers studying leader development to discuss the learning processes that are foundational to leader development research within the Army and civilian workforces.

To guide this discussion, we will ask panel members to briefly answer the following questions:

1. Please briefly share your experience as it relates to leader development.
2. In your work on leader development, how do you consider and leverage learning research?
3. What advantages are there to considering learning research in leader development scholarship and practice?
4. What do you see as the next big questions to answer in the learning to lead space? What work still needs to be done?

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Distributed Learning

A Systematic Review of Research in Distance Learning

Dr. Rob Nyland

The U.S. Military has a long history of utilizing distance and online learning, but there is a lack of clarity regarding the research conducted to establish effective practices in this specific environment. In this presentation, we will share the design and findings of a systematic literature review aimed at exploring peer-reviewed research focused on distance and online education within the U.S. Military. To guide this exploratory review, we developed several research questions:

RQ1: Which research methods (quantitative vs. qualitative) and data analysis methods are commonly used to investigate the outcomes of Distance Education in U.S. Military environments?

RQ2: What types of measures have been utilized in studies related to Distance Education in U.S. Military environments?

Additionally, the presentation will provide descriptive statistics regarding commonly found authors, topics, and publication years.

Since this project is nearing completion, we expect to have findings ready to share at the conference in December. Preliminary results indicate that while some promising studies have been conducted in this field, there are still ample opportunities for scholars to engage and shed light on this unique educational environment. The session will conclude with a discussion on potential paths forward to continue building an evidence base for distance education in military contexts, particularly emphasizing how research can highlight the advantages offered by the distance education environment.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Distributed Learning

Closing the Gap Between Intellect and Character in an Online Ethics Course

COL Heather Smigowski, Ph.D.

Students learn ethical theories and practice decision-making during the “Leadership Ethics” online elective course at the US Army War College (USAWC). All students appropriately provide written, asynchronous submissions demonstrating intellectual understanding of the principles applied to

AGENDA WITH ABSTRACTS

case studies; however, a disparity was noted during virtual discussions and the resident version of the course. Students consistently “know” the right thing, but admit that they would not always “do” the right thing. This issue is reminiscent of Robert Coles’ 1995 essay “The Disparity between Intellect and Character,” which has led to reimagining ethics in education. To close the gap between student thoughts and actions in the USAWC ethics course, reflective exercises were introduced into the course. Initial results indicate that the inclusion of deliberate, reflective practice brings a greater actionable change, demonstrated through increased awareness and situational judgment applied to case studies. This presentation will demonstrate how the use of reflective practice can be easily applied within online education programs to enhance the skill across a variety of topics, not just ethics. The session will provide an overview of the course, including topics and assessments, then introduce reflection examples. The session Q&A will allow for open dialogue on methods and assessment.

45-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Evidence-Based Instructional Strategies

Educational Wargaming: Analyzing War at Sea’s Impact on Learning

Dr. Amanda Rosen & Dr. Lisa Kerr

To what extent do wargaming and case-based teaching add value to more traditional instructional models in learning core concepts of national security and warfighting? This paper presents the results from a quasi-experimental, cross-sectional, and longitudinal study of students taking two standardized courses in the Joint Military Operations department at the U.S. Naval War College. Split into wargaming and non-wargaming sections by instructor preference, subject learning is measured through self-reported and objective measures at three points: prior to the start of the content block on ‘Operational Art’; after the case study of the WW2 battle of Leyte Gulf but prior to any wargaming; and for subjects in wargaming course sections, after participating in the Leyte Gulf scenario of the ‘War at Sea’ wargame. The results support the hypotheses that wargaming increases learning and alter student preferences in favor of learning through gaming but fail to find evidence that students recognize the value of the debriefing phase of educational gaming. This article adds to existing studies by focusing on an understudied practitioner population (graduate-level career military officers at a professional military education (PME) institution) and mitigating the methodological challenges facing many scholarly projects in the study of educational gaming in political science.

1230-1330 LUNCH

1330-1430 PANEL SESSION | WARNER LECTURE HALL 1

Evidence-Based Instructional Strategies

Staff Rides and PME - Bringing Critical Thinking to the Battlefield

Dr. Bradford Wineman, Dr. Christopher Stowe, & Dr. Paul Gelpi

The historical staff ride has for over a century been lauded as a preferred, if not exclusive, pedagogical tool in the education of military professionals. Most current rides conducted by Professional Military Education (PME) institutions adhere to one of two methodological approaches: the character-driven (or role-player) ride and that which adopts the “Socratic dialogue” method. Each has its devotees

AGENDA WITH ABSTRACTS

within the PME establishment, and each offers advantages in its approach. Yet, since the dawn of the twenty-first century, criticism of staff riding has emerged to challenge these exercises' utility. This panel acknowledges the merits of existing methods, yet it places its emphasis upon exploring alternate ways to execute the present and future ride. Interestingly, it does not favor an abandonment of past practices in toto. Indeed, it encourages the military schoolhouse to return to the intellectual spirit of staff riding as informed by the Clausewitzian concept of re-enactment—the insertion of the student in the place of an historical actor, without prejudice of what actually occurred—as a means better to execute PME's mission of developing critical thinkers and creative problem-solvers.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Assessment

Was It Academic Performance, Meaningful Learning, or Both? Using AI to Decode the Skill-Environment-Learning Triad

Lt Col Dwayne Clark, Ph.D. & Col Daniel Javorsek, Ph.D.

This purpose of our research in progress is to delve into the complex dynamics between skill, environment, and learning in the context of professional military education (PME). While the Department of Defense (DoD) now emphasizes outcomes-based or competency-based PME, there is a strong need for our institutions to distinguish between academic performance and meaningful learning. Our research aims to illuminate the various factors and approaches that contribute to meaningful learning and their relative importance.

Traditional educational approaches may not include the insight, or capability to identify whether learning is a result of skill or other factors. In turn, this complicates our ability to access the effectiveness of a program. To explore this issue, we will first present findings focused on analyzing data and results from the Gamebreaker Artificial Intelligence Exploration (AIE) program conducted by the Defense Advanced Projects Agency (DARPA). The AIE program utilized AI algorithms in open-world video games to assess game balance, identify significant parameters, and explore new capabilities and rule modifications. Although the Gamebreaker program primarily aimed to achieve its objectives within the gaming domain, it yielded valuable insights into the intricate relationship between skill and the environment, which extend beyond gaming. We then examine how the concept of “game meta” can be employed to represent the application of strategies and tactics to provide a nuanced understanding of “learner skill” and how these insights can be applied to enhance the evaluation of the learning process.

This proposal offers a critical examination of the relationship between skill, environment, and learning in the military education context. By leveraging the findings from the Gamebreaker program, we aim to develop a more comprehensive framework for evaluating learning in PME. The findings of this research will provide valuable guidance to educational practitioners, curriculum developers, and policymakers involved in military education and training.

AGENDA WITH ABSTRACTS

20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Learning Theories & Andragogy

Enhance Military Student Motivation and Reduce Attrition

Ms. Siyi Gao

Student attrition is among the most significant challenges faced by the Defense Language Institute Foreign Language Center (DLIFLC), a United States Department of Defense educational institution offering 16 different foreign languages to military service members. Approximately 20 percent of its military students are disenrolled annually (DLIFLC, 2021), leading to \$75,000 in turnover costs for each service member who leaves the military language program or military (Gibson et al., 2014). From a military readiness perspective, student attrition not only drains financial and human resources but also damages the United States national security posture. Hence, reducing attrition has become a top priority for DLIFLC leadership.

Research found that academic motivation was the factor most related to student academic outcomes (Allen et al., 2019). At the post-secondary level, motivation influences not only college student performance and retention (Demetriou and Schmitz-Sciborski, 2011) but also language learning success at military institutions (Jodai et al, 2013; Kurum, 2011). Therefore, the problem of practice will investigate if and how student motivation is related to language learning outcomes and attrition at DLIFLC as well as explore strategies to reduce attrition.

This research uses mixed method to explore the research questions (1) How does the motivation differ for the students who complete the language program and those who don't? (2) In what ways do classroom environment including student-teacher relationships and peer relationships influence student motivation? The main instruments of the study will include the Motivated Strategies for Learning Questionnaire (MSLQ) survey and focused group interviews with faculty and military students for collecting both qualitative and quantitative data at DLIFLC. This is a work-in-progress. The data analysis might not be completed by MSOTL. The research methods and findings might be able to apply in different military institutions to enhance military service members' learning and training motivations and reduce attrition.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Educational Technology

A Vision of Personalized Learning: MyJourney

Ralucca Gera & Mark Reith

Generally, learning platforms tend to reflect an evolution of the physical classroom into a virtual experience rather than deconstructing the learning process and evaluating how information technology might be applied in novel ways to support learning. Simple exposure to materials does not guarantee the internalization of the concepts and changes in behavior. We addresses these challenges by proposing a framework that leverages digital technology to improve the educational outcomes and the journey of the learner. We propose myJourney framework that personalizes the learning experience and presented learning content by scaffolding knowledge based on 1) the learner's goals, competencies, constraints and behaviour, 2) knowledge structure and available materials, and 3) assessment mechanisms and achievement records. The proposed myJourney framework consists of three interactive components: a Learning Cycle Model, a Learner Model & Individualized Profile, and

AGENDA WITH ABSTRACTS

a Dynamic Network of Knowledge, novel constructs to aid each aspect of the individualized learning journey and to advance our goal of personalized educational experiences represented by learning paths. Our theoretical framework is informed by student and faculty interactions with two learning platforms called CHUNK Learning and Avolve. We built these learning platforms and they have now endured the scrutiny of student and faculty usage over several years, whose feedback has shaped our goals and expectations for this vision paper. We exemplify our framework with user stories describing individualized learning experience supported by micro-learning content, personalized by diagnostic and formative assessments to capture competency, and attestation of the learner through digital badges. We provide a road map to advance the conversation of myJourney phases of the learning process.

*The panel “Co-creating a Personalized Learning Environment: ASPIRE” presents a discussion of its implementation as ASPIRE.

20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Distributed Learning

It's Not You... It's Us: Students and Experts Illuminate the Kaleidoscope of Toxic Leadership and Recovery

Dr. Mara Robinson

During May and June of 2023, I created, conducted, and thematically analyzed an anonymous survey sent to distance learning students and faculty in the Global College of Professional Military Education (GCPME). The survey had two prompts: (1) What questions would you ask an expert on toxic leadership (TL) and recovery? And (2) please write any other thoughts or stories on toxic leadership.

Analysis of the results elicited two academic responses from me. First, it led me to design a four-part webinar series with six TL and recovery experts that would help distance learning students and faculty answer these questions: (1) What resources are there for recovery and repair from TL? (2) How does anyone stop TL from happening? (3) What can anyone—specifically educators in a distributed learning environment—do to stop TL or help in the recovery?

Second, and what I could not have foreseen, was that the analysis illuminated something deeper and more systematic about our members ability to handle toxic leadership and the moving away from toxic leadership.

The purpose of this 20-minute presentation is two-fold: to provide answers and resources for the three questions, and to begin a conversation—to illuminate for others—what I suspect is the deeper ontological shift occurring in the Air Force (if not all armed services) around toxic leadership and recovery.

The immediate and long-term application was four-fold. First, the videos became available to all GCPME distributed learning students and faculty. Second, an article will be available in the next year for all military educators and students to access. Third, this work may inform the Air Force's creation of a definition of toxic leadership. And fourth, the information will be used by course directors to refine current leadership courses and the creation of new courses in the distributed learning environment.

1430-1445

BREAK

AGENDA WITH ABSTRACTS

1445-1545 PANEL SESSION | WARNER LECTURE HALL 1

Assessment

Experiments, Assessments, and Collaborative Curriculum Development: The US Naval Community College's Evidence-Based Instructional Strategies

Dr. Chuck Cushman, Prof. Russell Evans, Dr. Scott Hamm, & Prof. Daniel Goff

Faculty at USNCC have been testing several teaching delivery modes and numerous delivery techniques in an effort to improve its Naval Studies Certificate courses. Each experiment is assessed, with the resulting data driving decision-making on future programming, course design, and delivery modes. From its initial inception, USNCC has drawn on expertise from the full Naval University System to design its courses and certificate programs, and has used assessment, student survey, and faculty evaluation to judge the effectiveness of the courses, and to suggest revisions. At the same time, USNCC faculty test techniques for improving student retention and engagement with the material, and conduct experiments with a variety of delivery modes, including specific courses and testing delivery to ships underway, in order to fulfill its mission to support educational opportunities for USN/USMC/USCG enlisted personnel. The USNCC institutional effectiveness and assessment plan relies on real-world experience to improve and revise USNCC courses.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Faculty Development

Teaching and Learning Tactics in and Through Wargaming Debriefing

Dr. Björn Sjöblom

Debriefing sessions play a crucial role in enhancing the effectiveness of simulation games for learning in military education. However, despite its significance, debriefing has often been overlooked in research on simulation gaming, resulting in an underdeveloped understanding of its impact, especially with regards to the interactional practices of debriefing that the participants engage in. This ongoing empirical study focuses on debriefing sessions in officer education, specifically examining how these sessions are conducted and the methods employed by players and facilitators. The aim is to shed light on the interactional work involved in debriefing and uncover its importance in wargaming-based education. Prior studies of debriefing interaction have largely been conducted in civilian simulator-based environments (e.g. medical simulation), and this study therefore constitutes an expansion of our understanding of debriefing into wargaming-based education.

This study was undertaken at the Swedish Defence University, where video data has been collected from a variety of wargaming-based tactics courses, mainly for marine cadets. They use a digital wargame (the Simple Surface Warfare Model), in a variety of scenarios. The study utilizes a video-ethnographic approach combined with participant observation to analyze the interactions during debriefing sessions.

The research draws upon ethnomethodological and interaction analytical perspectives to analyze the instructional and learning aspects of debriefing. By opening up the “black box” of wargaming and focusing on the work of players and facilitators in debriefing, this research can contribute to improving learning outcomes in military game-based education. The analyses show how debriefing functions as

AGENDA WITH ABSTRACTS

a way for participants to construe military tactics as an specific area of knowing, delineating it from other related military educational subjects (e.g leadership and military technology). The debriefing serves as a forum for rendering tactics salient for students, an area in many cases difficult for the military cadets to grasp.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Evidence-Based Instructional Strategies

Increasing Inclusion in Classroom Discussion: The Raised Block as a Classroom Response System

CAPT Bryan Leese, Ph.D. & Dr. Amanda Rosen

Discussion is one of the most used pedagogical techniques in university classrooms but student participation in discussion is not always equitable. This study examines improving equity of student participation by replacing traditional hand raising with an analog classroom response system (CRS), the Raised Block. The study examined instructor and student use of Blocks during seminar discussions in a security studies program at the US Naval War College, a professional military education institution. A series of surveys asked the students and instructors about their experience to determine if using the Blocks increased the perception of inclusivity in the discussions. Quantitative and qualitative analysis of the survey data showed that using the Blocks led to more varied, dynamic, and engaged student participation, especially in “quiet” students with high-communication apprehension (CA). The Block approach can improve the discussion environment by organizing participation in the discussion that lessens the apprehension associated with raising and holding up a hand. The Blocks increase the persistence of a signal to participate, slowing the pace of the discussion allowing more participation. Thus, the Blocks limits “dominant” low-CA students from controlling the discussion. Together, the mechanisms create space in the discussion allowing high-CA students access and inclusion. At the same time, many students objected to the Blocks, both in principle and in their execution. Successful use of the Blocks required instructors to gain a level of skill in using the Blocks and transparency about the purpose of their use.

20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Evidence-Based Instructional Strategies

Strategic Approaches in Professional Military Education: Elements of Leadership and Strategic Decision Making

Ms. Erica Haglund, Dr. Linda Brent, Dr. Celestino Perez, Jr., & Dr. Megan J. Hennessey

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AGENDA WITH ABSTRACTS

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20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Educational Technology

Generative AI In the PME Classroom: Lessons Learned

Prof. Kristan Wheaton

This presentation examines lessons learned from incorporating generative AI into a professional military education classroom over the course of academic year 2023. These findings emerged from a graduate level class involving 30 senior military officers. The primary result was that generative AI shows significant promise as an educational tool for professional military education. Despite weaknesses, like occasionally producing false citations, student feedback indicated generative AI enhanced the learning experience by accelerating student workflows and broadening student experiences.

Employing an exploratory case study methodology using surveys, focus groups, and analysis of student work, this classroom experience suggests that generative AI, as it currently exists, may be better used to complement rather than replace human instructors. Most importantly, however, the study highlights the need for nuanced understanding of the pros and cons of new technologies like generative AI that can only come through direct experience.

For the military, these lessons learned imply that AI will likely play a rapidly increasing role but that human judgment will remain essential. What deserves attention now, however, are the skills needed to provide effective oversight in an AI enhanced age. These lessons learned can inform how the military education system pilots and scales the use of generative AI to maximize its benefits while safeguarding against potential issues like the spread of misinformation.

1545-1600 **BREAK**

1600-1700 **Evening Social**

All attendees are welcome to join us in the MCU President’s Distinguished Visitor’s Lounge.

0900-1000 **Day 2 Keynote | WARNER LECTURE HALL 1**

Dr. Gerard Puccio

1000-1015 **BREAK**

1015-1115 **45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 1**

Assessment

AGENDA WITH ABSTRACTS

What Do Creative Problem-Solvers Need?

LtCol Tim Sparks

The purpose of this study was to examine factors related to creative problem-solving within a professional military education context. The scope of this study was a 2020-2021 cohort of mid-career military officers and federal government employees at MCU's Command and Staff College. This study was a convergent parallel mixed methods needs assessment as part of a pending dissertation. Research questions covered factors related to the environment for creative problem solving in a PME institution, from both student and faculty perspectives. Methodology included the design and analysis of a new survey, interviews with faculty and students, and secondary data analysis of annual surveys, student grades and other assessments. The study informed the design of an intervention for the 2022-2023 cohort. (Note: I could also present results of the assessment of the intervention. The intervention is complete; assessment is ongoing for my dissertation, which is planned to be complete in December 2023).

45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Evidence-Based Instructional Strategies

“But When Will I Use This in the Fleet?”: Simulating Military Professional Writing In the Undergraduate First-Year Composition Classroom

Dr. Philip Garrow

A mixed-methods Scholarship of Teaching and Learning (SoTL) case study was conducted in two parts with midshipmen enrolled at the U.S. Naval Academy to determine if writing error propensity could be decreased over the course of a single-semester first-year composition (FYC) class. During the needs assessment, information provided by 55 midshipmen showed an average errors per 100 words rate of .29 for formal mistakes and .65 for citation errors per essay. Qualitative information collected via survey instruments emphasized the need for an andragogy-centered approach for improvement and real-world applicability. As an intervention, cognitive apprenticeship adjustments to the FYC class syllabus allowed for including a professionally-relevant text, a scaffolded approach to writing projects, and multiple reflective writing activities. Across three writing assignments with different documentation styles, 50 midshipmen decreased their formal (.58 to .23) and citation (.77 to .62) errors per 100 words rates by the conclusion of the semester. Improvement demonstrated during a FYC class is a key means to train military students into developing a critical thinking mindset capable of juxtaposing intellectual creativity with grammatical and citation rule adherence. The overall intention of the research was to create a cadre of future officers better trained to avoid consequential errors in the various kinds of professional correspondence employed in operational theaters.

Note: The presentation will involve research questions (4 during the needs assessment and 7 during the intervention stage) and findings completed for a doctoral dissertation. Two Institutional Review Boards (the Johns Hopkins University School of Education and the United States Naval Academy) reviewed and approved the research protocols.

AGENDA WITH ABSTRACTS

45-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Assessment

Localized Professional Development: Creating Base-Level Solutions to a Military-Wide Problem

Mr. Layton Graves

A quantitative study is being conducted on Freedom Air Force Base (FAFB) (a pseudonym for anonymity), to assess the motivations of active duty Airmen to pursue voluntary education. All Airmen who attend the Air Force Tuition Assistance (AF-TA) seminar over a two-month period (ending 30 June 2023) at FAFB are invited to participate in the study. The study incorporates Boshier's (1991) Education Participation Scale, a 42-question survey utilizing a four-point Likert Scale, to measure the motivations of adult learners to pursue voluntary education. The results are aggregated by demographic categories (time on station, military rank, gender, education level, etc.) and compared to known perceptions of United States Air Force (USAF) education programs found in academic literature. This study addresses the research questions of, "What are the motivations of Airmen who attend the AF-TA briefing at FAFB?" "Are there any statistically significant demographic trends present for Airmen who attend the AF-TA briefing at FAFB?" and "What are the similarities between the motivations of Airmen who attend professional development (PD) courses at FAFB and the known perceptions of USAF PD?" This study addresses the specific education motivations of Airmen at FAFB and showcases how Airmen at FAFB may have different motivations to pursue education than what may be present at other USAF installations. The benefits of locally developed and managed PD, tailored to the education motivations of Airmen on an installation, is discussed through examples of what a base-level USAF PD program could incorporate to align with Boshier's (1991) seven motivations of adult learners to pursue voluntary education.

1115-1130 BREAK

1130-1230 45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 1

Evidence-Based Instructional Strategies

Thinking Like an Adversary: Developing Perspective Taking in Military Learners

Dr. Allison Abbe

To understand and shape behavior in the operational environment, military practitioners and leaders need an understanding of others' perspectives - their motivations, mindsets, perceptions, and preferences. Perspective taking is a critical skill in making sense of multiple actors across strategic and operational environments, including adversaries, partners, and subordinates. Recognized as a component of systems thinking and intercultural competence, perspective taking is primarily a cognitive skill and is related to, but distinct from empathy. Unfortunately, efforts at perspective taking often fall short. Although the cognitive abilities needed for perspective taking develop in childhood, adults are sometimes unable to apply those abilities in their personal and professional settings where demand is high. Perspective taking failures can result in egocentric or ethnocentric projection, in which the observer unknowingly applies his or her own personal or cultural lenses to others. This presentation will explore evidence-based methods for improving perspective taking skills in adult learners. The author's previous research on developing intercultural perspective taking in military personnel provided the starting point for a literature review of psychological research and learning

AGENDA WITH ABSTRACTS

sciences on perspective taking. According to this research, perspective taking can be intentionally improved through direct instructional methods to reduce egocentric bias. In this approach, practice and feedback are key. Alternatively, perspective taking can develop indirectly as learners explore other disciplines. Evidence points to humanities disciplines in particular; history, literary fiction, and comparative studies provide opportunities to develop perspective taking. Learning a foreign language may also benefit perspective taking. Conclusions will address the application and limitations of this research for military learners.

45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Educational Technology

Enhancing Military Education Through Human-Intelligence Augmentation (HIA) Teams: An Intelligence Augmentation Strategic Avatar Initiative

Dr. William Barry & Dr. Kathleen Moore

Professional military education faces the challenge of preparing future leaders for increasingly complex and dynamic environments. This presentation highlights an innovative project aimed at integrating a human-IA (Intelligence Augmentation) team approach into the Army War College curriculum to enhance wargaming and educational outcomes. The project introduces an IA strategic avatar that harmoniously integrates human decision-making with IA-powered insights. This sophisticated collaboration fosters an environment conducive to astute data-informed decision-making, streamlined data summarization, predictive hypothesis generation, and accurate identification of misinformation within a dynamic Human-AI team setting.

Research Questions:

1. How does the IA strategic avatar enhance decision-making and learning in military education, and can it be adapted for different contexts?
2. How can human-IA collaboration impact decision dominance, workload, and psychological factors, and how can these effects be measured?
3. How can IA integration mitigate security and bias risks, address ethical considerations, and maintain long-term viability and sustainability?

Methods:

The IA strategic avatar will be developed using cognitive computing. Data from digitally formatted documents and books supplied by the Center for Strategic Leadership (CSL) of the Army War College and the Army War College library will be uploaded to a custom knowledge store, ensuring trustworthiness and validity. Participants will interact with the strategic avatar through various learning modules and wargaming scenarios. Data will be collected on participants' performance, decision-making, and feedback regarding the utility and functionality of the avatar.

Results:

This is a work in progress. Preliminary findings and feedback from pilot testing will be presented.

Implications:

This project has the potential to revolutionize professional military education by establishing human-IA teams that enhance data-informed decision-making, decision dominance, and strategic and critical thinking.

AGENDA WITH ABSTRACTS

45-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Learning Theories & Andragogy

Not-So-Artificial Intelligence: Teaching and Learning AI Literacy in a PME Community

Kate Egerton, Aileen Houston, Dr. Sandra Leavitt, & Ms. Chloe Woida

Adult learners in professional military education (PME) need both autonomy and community to achieve learning, writing, and professional goals, especially in demanding graduate programs. The acceleration of artificial intelligence (AI) presents opportunities and challenges in PME contexts. Success depends on whether students, instructors, and writing centers can collaborate to understand and creatively engage with AI, which will likely become critical for maintaining military advantage where arguably humans remain more important than technology.

As an entry point into this discussion, we examine student intake assessments and exit surveys at the Naval Postgraduate School (NPS), and the perspectives these instruments reveal about student learning and development of critical thinking skills. As mid-career military officers and graduate students, NPS learners are collaborative stakeholders in their education.

In the wake of ChatGPT's launch, AI literacy has emerged as both a desired learning outcome for students and a critical capability for educators. Defining AI literacy is useful, but definitions vary across disciplinary and professional contexts. We consider how military priorities to develop AI capabilities across the ranks compare/contrast with other efforts to capture essential AI skills and abilities.

As generative AI consumes all the oxygen in the room, it's important to remember the role AI already plays in learning and teaching. At the NPS Graduate Writing Center, AI-powered plagiarism detection software is used as a tool for learning and skill-building around attribution and academic integrity, and requires a team approach among students, writing coaches, and faculty.

Finally, we turn our focus to the classroom, the front line of generative AI integration. Here, opportunities for supporting AI literacy proliferate through active engagement and discussion that emphasizes critical thinking and creativity. The way students respond to outputs and academic scenarios related to generative AI use provides valuable insights for effective AI integration in PME.

1230-1330 LUNCH

1330-1430 PANEL SESSION | WARNER LECTURE HALL 1

Publishing in Military SOTL

Dr. Paul Hoffman, Dr. Keith Beurskens, Ms. Angela Anderson, & Dr. William Eliason

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Educational Technology

Incorporating Generative AI into Curriculum: A Year of Learning's Impact on Trust and Adoption of AI

Dr. Kathleen Moore & Dr. William Barry

The military will likely face significant challenges incorporating machine learning (ML) and artificial intelligence (AI) into decision making activities due to the difficulties of not only culture change but due to lack of trust in intelligent assistance technologies. During the 2022-2023 academic school year, the Strategic Future's Seminar at the US Army War College, whose purpose addresses strategic wicked

AGENDA WITH ABSTRACTS

problems for Army and DoD leaders, incorporated generative AI into every aspect of the year-long course, from instruction, research, and analysis, to final deliverables both in text and visuals.

As the Center for Strategic Leadership at the college embarks on a Campaign of Learning for the 2023-2024 school year seeking to promote the use of these technologies more broadly in the curriculum, an assessment of familiarity, knowledge, trust and intent to adopt ML/AI was issued to faculty, staff, administration, and students.

This presentation will cover the unique aspects of the year-long course, the tool used for assessment, and an analysis of the results. The presentation will conclude with implications for the learning, faculty development, support staff training, and critical next steps in technology acquisition.

20-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Faculty Development

A Practical Exercise for Teaching Sociocultural Systems Thinking Skills to Army Leaders

Stefanie Stancato & Ava Loer

Sociocultural systems thinking (SCST) involves a process of identifying and exploring how information regarding components of a sociocultural system interconnect and serve to create emergent meaning that both guides and is guided by how individuals interact through social relationships (Gharajedghi, 2013). Given the complexities of the operational environment, it is important for Army leaders to understand the sociocultural system as it extends beyond a single interaction and the broad and distal consequences of their actions and responses to events (Strong et al., 2013). The Analyses of Boundaries in Systems (ABS) Practical Exercise was developed to hone these sociocultural systems thinking skills in Army leaders and was designed to be conducted with current and future field-grade officers in Professional Military Education courses or for Army leaders who want to prepare themselves for complex sociocultural environments. ABS draws from real-world events to demonstrate sociocultural systems concepts. The exercise involves participants coming together in small groups to review real-world sociocultural systems. Each group is tasked with examining the sociocultural system from a specific perspective (e.g., economic, environmental, law enforcement, diplomatic) and use their designated perspective to create a timeline of key historic events, develop a visual representation of the system, propose potential interventions, and predict how the system may respond to their intervention. The goals of this practical exercise are (a) generate discussion among groups of participants, (b) encourage systems thinking, (c) promote new ways to think about complex events, and (d) to practice productive discourse.

Disclaimer: The research described herein was sponsored by the U.S. Army Research Institute for the Behavioral and Social Sciences, Department of the Army (Contract No. W911NF-15-C-0031). The views expressed in this presentation are those of the author and do not reflect the official policy or position of the Department of the Army, DoD, or the U.S. Government.

AGENDA WITH ABSTRACTS

20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Evidence-Based Instructional Strategies

Cadet Perspectives on Teacher Advocacy in the Philosophy Classroom

Dr. Stephen Finn

Whether instructors should take on the role of an advocate in the classroom is a thorny question, which has been answered in a variety of ways in the pedagogical literature. What seems to be lacking, however, is information concerning student perceptions on teacher advocacy. Do students believe it is appropriate for a teacher to present and disclose his or her own views on controversial topics? In this paper, the author describes the results of two separate surveys in an effort to answer the question about student perceptions on this practice. Furthermore, the author provides a number of suggestions, based upon the results of these surveys to help mitigate some of the problems associated with advocacy, for those who practice it in the classroom.

20-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Evidence-Based Instructional Strategies

The Case for Developing a Specialized Military Corpus for Security Cooperation Language Training

Ms. Jody Cicek

Military language training has been criticized for not meeting the linguistic and training needs of international partners (Cohen 2023; Anonymous, personal communication, April 22, 2023; Cope 1995). However, English for Military Purposes instructors face the challenge of teaching jargon, wordclusters, and expressions that learners will need for success in follow-on training, despite not being experts in the learners' MOS. This presentation describes efforts to enhance learning materials through specialized corpora, which will better prepare these partners for FoT and, in turn, support the security cooperation mission.

A corpus is a collection of texts used to study language and allows researchers to analyze massive amounts of real-world language data using computers. Studies show that language materials produced with general corpora yield generic terminology and examples that can't be generalized to specific post-learning situations (Egbert, Larsson, Biber 2020; Mindt 1996). Specialized corpora have better representativeness and can capture the complexities of military language, as they offer authentic examples of language use to help learners communicate effectively during domain-specific tasks. Unfortunately, current military language training materials emphasize outdated or prescriptive grammar rules, use inappropriate vocabulary, and include artificial dialogs. Using a specialized corpus would support curriculum designers' identification of language features, vocabulary, and discourse patterns in the military domain, and allow designers to incorporate them into language learning materials.

To remain competitive in providing security assistance to international partners and providing world class language education, USAF should accelerate change through transforming learning. China has the PLA military corpus and, given the lack of a comparable USAF corpus, Taiwan created their own. An initial action research study using a military corpus in an Air Force language classroom showed positive results, with students performing better on military tasks and reporting increased confidence in their ability to comprehend and deploy language in a military environment.

AGENDA WITH ABSTRACTS

1430-1445 **BREAK**

1445-1545 45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 1

Assessment

Enhancing Online PME Assessment: Design-Based Research for Rubric Development and Evaluation in the Global College of PME

Dr. Rob Nyland & Dr. Carl Watts

Rubrics play a crucial role in higher education as they ensure the use of transparent, consistent, and fair performance standards (Ragupathi & Lee, 2000). Particularly in the Global College of PME (GCPME) at Air University, an online learning institution that serves over 33,000 active duty, guard, research and civilian students, rubrics hold significant importance. With over 200 full-time and adjunct faculty involved in grading, the use of rubrics ensures consistency. In this presentation, we will discuss the ongoing evaluation studies conducted at the Global College of PME to test newly developed essay and discussion rubrics. This study serves as an exemplary case of iterative design-based research for enhancing educational products.

The iterative pilots for these rubrics commenced in the Summer of 2022, utilizing a live comparison study between equivalent courses employing the rubrics and those that did not. During these tests, the evaluation was guided by several research questions:

RQ1: How do student grades differ between the existing rubric and the new rubric?

RQ2: How does the new rubric impact the student writing process?

RQ3: How does the new rubric affect instructor feedback to students?

RQ4: How does the new rubric influence interrater reliability?

To answer these questions, we collected data from three primary sources: grades, instructors, and students. Instructor and student feedback were gathered through Qualtrics surveys administered at significant stages of the trial. We also conducted an inter-rater reliability exercise in which anonymized student papers were evaluated by two instructors using the new rubrics.

The presentation will guide audience members through each phase of the pilot study, highlighting the iterative improvements made after each phase. Furthermore, the presentation will share valuable insights learned from this extensive evaluation project.

45-MINUTE RESEARCH SESSION | WARNER LECTURE HALL 3

Assessment

A Modular Rubric for Simultaneous Course and Program-Level Assessment

Dr. Stephanie Hostetter & Mr. Jon French

The CJCS 2020 outcomes-based military education (OBME) effort emphasizes direct assessment of student learning at the course and program levels. The Global College's (GC) existing assessment tools were only designed to provide assignment and course-level assessment. This created a need for a method of directly assessing student performance against the program learning outcomes (PLO). To meet this need and maximize the use of limited resources, the GC is pursuing a new rubric that can both measure course-level outcomes and directly inform program-level assessment. The approach uses a Modular Rubric (MR), which provides a menu or bank of standardized rubric criteria (and associated performance descriptors) that can be mixed and matched to create rubrics that

AGENDA WITH ABSTRACTS

support the requirements of individual assignments. The criteria evaluate both PLO-specific elements (organized by Bloom's learning levels) and assignment-type elements (e.g., essay, discussion question). Ultimately, the MR seeks to balance the effectiveness of creating a tailored rubric for each assignment with the ineffectiveness of using general, or too broadly categorized, rubrics.

Having developed the initial rubric, the GC is currently implementing a multi-phased evaluation plan. We have conducted several rounds of peer review on the rubric design and validity, which informed recent revisions. Now, we are preparing to evaluate the reliability of the rubric by piloting it with instructors. We will use their feedback to make further revisions before finalizing the rubric and piloting it in courses this fall.

In this presentation, we will 1) Describe the background and purpose of the MR approach, 2) Describe our process for developing, evaluating, and revising the MR, and 3) Discuss some of the benefits and challenges of this approach. We believe that this topic will provide valuable and practical insights for the MSOTL audience, especially for those grappling with OBME requirements.

45-MINUTE RESEARCH SESSION | WARNER ROOM 3144

Faculty Development

Professional Military Education Faculty Experience Within a Faculty Learning Community and Its Interest in Learning Technology Integration

Mr. Jonathan Zemmer

The rapid advancement of technology creates an ongoing professional development challenge for the DoD to ensure its workforce is adequately equipped. An essential element for workforce development within the DoD is the use of institutions of Professional Military Education (PME) that provide formalized instruction to both military and civilian personnel. Educators who teach within these environments need professional development to support using new learning technologies. The use of Faculty Learning Communities (FLC) is a proven form of professional development. There is a need to explore how FLCs can be utilized to support PME educators in the use of intentional use of learning technologies.

This presentation shares insights from a Participatory Action Research (PAR) study that explored the experiences and perceptions of PME faculty members participating in a FLC focused on educational technology utilization during the 2022-2023 academic year. As the DoD emphasizes the importance of technology capabilities and workforce development, understanding faculty experiences in PME settings becomes crucial for effective technology integration in teaching and learning. Utilizing a participatory action research (PAR) design, the study collected data through faculty artifacts, researcher reflexive journals, semi-structured interviews, bi-monthly meeting minutes, videos, and presentation materials. The research questions focus on PME faculty's change of participants' understanding of how technology supports teaching practices, and their experiences in an educational technology learning community. Findings from this study provide valuable insights to inform decision-making processes in institutions, facilitate the development of best practices for faculty, and contribute to the ongoing conversation about technology integration in PME settings.

1545-1600 **BREAK**

1600-1615 **Closing Remarks** | WARNER LECTURE HALL 1
Dr. Mark J. Conversino

ON-DEMAND

ON-DEMAND SESSION

Assessment

Teaching Old Dogs New Tricks: Creating an Institutional Research Mindset through Data-Informed Decision-Making in Intermediate Joint PME

Stephanie Erwin & Ronald Dains

As professional military education (PME) moves towards outcomes-based educational models, institutional leadership seeks to develop a more intentional institutional research mindset, one driven through informed data collection, analysis, and decision-making, while ensuring the military educational experience remains adaptable and agile to meet future operational and strategic challenges. Such a shift is not bereft of challenges. Certainly, this includes moving from more inputs-centric models towards outcomes-based education but also bridging the gaps in discipline and occupation (military vs civilian academic) and establishing intrinsic faculty buy-in.

One Intermediate Joint PME institution has sought to create this institutional research mindset through an intensive faculty development and collaboration effort in mixed institutional research teams, both informal and formal. Formal institutional research efforts included qualitative, quantitative, and mixed methods studies. This presentation presents both the overall initiative and examples of the empirical research and findings within. As a whole this effort remains a work-in-progress, however individual studies highlighted include a focused ethnography on wargame classification, a concurrent triangulation mixed methods study on student rewrites, a descriptive statistical analyses on geo-bachelor and declination student status, an explanatory sequential mixed method study to determine distinguished graduates, and others.

In support of creating an institutional research mindset and to best address the articulated research endeavors, the school sought to enhance faculty development and collaboration by creating cross-departmental and interdisciplinary research teams comprised of civilian academics, permanent party military, and military fellows. This not only bolstered the research designs of individual studies but enabled an intrinsic institutional data-informed decision-making mindset across the faculty including efforts towards enhanced data visualization, strategic lines of effort, and organizational change.

ON-DEMAND SESSION

Evidence-Based Instructional Strategies

Implementing Problem-Based Learning in Professional Military Education: A Case Study of the Airpower Strategy and Operations' Course Team

Heather Venable, Paul Springer, Justin Wohlford, Rob Lacy, Michael Dean, & Joel Mathews

This work-in-progress will discuss the various approaches the Airpower Strategy and Operations Course Team took to implementing problem-based learning at Air Command and Staff College. Students often complain when they study airpower history, "How will learning this help me do my job?" We hope that they will no longer need to ask this question as they will be engaging in activities that replicate the creative portions of staff work while engaging with the same questions we have always wrestled with in previous iterations of this course.

The presentation will be divided into the various phases of 1) envisioning problem-based learning activities 2) preparing faculty 3) implementing these activities in the seminar room and 4) lessons learned. Each of the participants either actively participated in all four phases or designed a class activity to engage students in active learning.

While the actual products may not be useful for many other attendees given the focus on airpower, what is valuable is understanding the process. We have included a large number of presenters in hopes of also facilitating a productive conversation between the presentation team and attendees.

Note: We have selected the virtual option. We do hope, however, to receive some internal funding from ACSC for a

few attendees to present in person.

ON-DEMAND SESSION

Assessment

Oral Comprehensive Exams: Lessons on the Assessment of Student Achievement of Program Learning Outcomes at the U.S. Army War College

Christopher Hickey, Ph.D., Brett Weigle, Ed.D., & Matthew Woessner, Ph.D.

Strategic guidance, including The Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management and Department of Defense Instruction 1322.35, Military Education, has emphasized the importance of high-quality assessment of student learning and program effectiveness. Establishing an appropriate process and criteria for measuring adult educational success has long been a critical challenge for educators (Harnett and Willingham, 1980). Research suggests that comprehensive examinations have been helpful for assessment in at least one military education institution (Collins, Welch, and Martin, 2020). The U.S. Army War College resident education program administers an individual oral comprehensive exam as one of several means to assess student achievement of six Program Learning Outcomes (PLOs).

The presentation will first review the PLOs, how the examination seeks to assess their achievement, and critical lessons learned from the exam's evolution intended to implement best practices in assessment, including authentic assessment (Wiggins 1989, 1998). It will then discuss findings from regression analysis and a review of student and faculty surveys to address four questions. First, what is the relationship between course grades and comprehensive exam grades? Second, what is the relative strength of the six PLOs in influencing comprehensive exam grades? Third, do the exam grades provide evidence that students in specialized programs experience better outcomes in achieving the PLOs? Fourth, is there evidence of changes in overall outcomes related to changes in the curriculum? Initial work suggests that course grades and comp exam grades are correlated, that the strategic communication PLO has the most substantial impact on comprehensive exam grades, and that there is evidence of greater achievement of program learning outcomes in some specialized programs. The findings may be limited by the degree of subjectivity inherent in grading. The lessons and findings will be helpful to institutions considering options to improve assessment practices.

ON-DEMAND SESSION

Learning Theories & Andragogy

Supercharging Brainpower: Enhancing Transferrable Cognitive Skills Through Parallel Curricula

Murray Simons

This research project explores the potential to enhance PME participant's divergent thinking skills through polychronically targeted epistemic devices. The goal being to develop enhanced transferrable cognitive skills to assist decision makers in the workplace. This work-in-progress study advocates multiple diverse epistemic devices can be used throughout a course program as vehicles to learn extant content-centric curricula material—and with barely noticeable time penalties. While often such declarative knowledge is time perishable, the enduring value of PME is developing military personnel in ways that prepare them to cope with future, unforeseen, challenges. Current learning techniques often remain largely ad hoc and unstructured. While an overly prescriptive framework would also be counter-productive, the need for faculty awareness-raising and a stronger sense of the affordance variety offers are both essential. Having entangled metacognitive curricula would allow PME courses to deliberately develop their graduates for the volatile, uncertain, complex, ambiguous, and novel environments that the future holds.

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VUCAN is not the problem; being unable to cope with VUCAN is.

ON-DEMAND SESSION

Distributed Learning

The Makusudi Game™: Fostering Collaborative Teaching and Learning Communities through Gamified Leadership Training

Neelima Grover & Arslan Muradi

Our research investigates the effectiveness of The Makusudi Game™, an online leadership tool grounded in systems thinking and complexity theory. This gamified tool nurtures critical thinking and collaboration and emphasizes data-driven decision-making. Initially used as a USAID missions board game, it's now being adapted for military education, with promising early results from tests involving 25 military educators.

Designed for foreign interventions, The Makusudi Game™ includes custom scenarios addressing specific challenges. It compels players to apply systems thinking and complexity theory, integrating cultural awareness and political acumen. It offers interactive, cross-functional training across geographies, accommodating non-English speakers. Its experiential vignette-based learning includes scenarios such as 'Maritime Domain Awareness,' 'Women Peace and Security,' and 'Global Fragility Act,' challenging participants to develop solutions within budget and time constraints. A scoring system gauges the efficacy of these solutions, reflecting learning outcomes.

Our research methodology involves analyzing the game's implementation within the USG. Initial findings show it boosts collaboration, engagement, motivation, and critical thinking skills, attributable to its gamification elements. The scoring system allows tracking student learning progress over time, allowing educators to adapt curriculum as needed.

In military education, The Makusudi Game™ shows significant potential for training personnel to strategize in dynamic environments. Its adaptability enables application in various military scenarios, promoting collaborative problem-solving and critical thinking. The scoring system provides a measurable means of monitoring progress for individuals and groups.

As we refine this tool, we foresee improvements in our training processes and outcomes. This research holds implications for military education, offering an innovative systems approach to leadership training. Our study of The Makusudi Game™ seeks to uncover insights into its effectiveness, impact, and potential for broader applications within the military education system, particularly regarding systems thinking and complexity.

ON-DEMAND SESSION

Evidence-Based Instructional Strategies

Why Kids Can't Write: The CGSOC Writing Study and Outcomes-Based Education Approach

Richard McConnell & Trent Lythgoe

The US Army Command and general Staff College (CGSC) Writing Improvement study produced positive results showing that the Pre-CGSOC Writing Program (PCWP) was working. The findings revealed that a combination of the Nelson Denny with the Writing Exam is a more statistically powerful predictor of at-risk students with writing challenges. The current Diagnostic Essay is not a strong predictor of at-risk students and is more useful as a feedback tool for Staff Group Advisors. Data also shows that the Learning Resource Center (LRC) is helpful for students, but more data is needed to assess the level to which LRC attendance is helpful. The study findings will influence recommended curriculum changes throughout Army University. Dr. McConnell and Dr. Lythgoe presented the research findings at

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the Association for Business Simulations and Experiential Learning (ABSEL) annual conference 23 March 2023 and the research report was published in the conference proceedings. The research report will be made available to MSOTL participants. Dr. McConnell and Dr. Lythgoe hope to share this research with other institutions to help them improve their writing instruction.

ON-DEMAND SESSION

Assessment

Survey of Meteorology Concepts: Validation Strategies

Daniel O'Keefe, Louis Cascino, Christopher Francis, Wilson Gonzalez-Espada, & Kimberly de La Harpe

Misconceptions are inaccurate conceptual understandings and cognitive structures rooted in students' thinking but deviate from the conception described by experts in their field, even after traditional instruction [1]. Misconceptions influence how students receive and process new ideas and can interfere with their ability to form a meaningful understanding of complex concepts [2].

Although researchers have explored misconceptions in several meteorology topics, there is a dearth of comprehensive, valid, and reliable questionnaires that can identify persistent misconceptions [3-6]. Being well-informed, understanding the nature and impact of hazardous natural events, and implementing appropriate responses is essential for national security.

The purpose of this study was to develop the Survey of Meteorology Concepts (SMC) as a literature-based, psychometrically valid, and reliable meteorology questionnaire. Although this is still a work-in-progress, the researchers would like to discuss the validation strategies, which can be implemented in other surveys and classroom-based assessments. These include (a) Item Response Theory, including reliability coefficients, item difficulty, and item discrimination; (b) Differential Item Functioning, a set of methods that can help identify disparities by sex, ethnicity, age, or education among cadets of the same ability; and (c) Distractor Analysis, a deep-analysis of all the alternatives in a multiple-choice question that, in association with a Certainty of Response Index prompt, can identify to what extent distractors are plausible, and which could represent an actual lack of knowledge of a topic, or a misconception [7-9].

ON-DEMAND SESSION

Research Methods

Reducing STEM Attrition at USAFA: Cadets' Viewpoints

Daniel O'Keefe, Christopher Francis, Wilson Gonzalez-Espada, & David Meier

Higher education graduates with knowledge, skills, and abilities in science, technology, engineering, and mathematics (STEM) are essential for promoting innovation and economic growth in the United States. However, civilian and military universities may not be producing enough of them to meet current and future demands in federal, national defense, private, and nonprofit sectors, which is a concern for the U.S. Department of Defense [1-5].

The availability of STEM graduates will depend on how many students decide to enroll in college to pursue these careers and how many persist and complete a degree [6]. However, these two variables are influenced by countless factors, resulting in STEM attrition [7-8], even at military universities [9-10].

The purpose of this study was to closely examine academic and nonacademic factors linked to STEM attrition from the perspective of cadets who were STEM-interested (as freshmen or who initially declared a STEM major), but that eventually moved to nonSTEM majors at the U. S. Air Force Academy (USAFA). The sample consisted of 136 cadets, and the survey included a 10-point Likert scale, where students ranked three main academic factors (classroom

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experience, understanding of the content covered in class, and final grade) and five Core STEM classes as impactful in their decision to ultimately declare non-STEM majors.

Almost two-thirds of cadets perceived that their classroom experience in Calculus I & II had a moderate or strong influence on their decision to move away from STEM majors. This percentage is much higher than those for other listed courses. To reduce STEM attrition among cadets, USAFA should modify the curriculum of Core classes, reduce overall workload, improve instructor effectiveness, and identify ways to equate the rigor of STEM and nonSTEM majors to avoid disadvantaging STEM cadets for GPA-related opportunities and benefits.

ON-DEMAND SESSION

Distributed Learning

From Innovation to Necessity: A Case Study of the RMC MBA Evolution from a Traditional Residential Program Through Hybrid Delivery to Fully Online

Margaret BK (Maggie) Shepherd

This is a work in progress and is using the Ontario Institutional Quality Assurance Process as a stepping-off point. We are approaching almost 25 years of running our Master of Business Administration program at the Royal Military College of Canada. In 2013, we made the leap and brought our MBA from a hybrid mode to a fully online program in order to respond to a growing demand for more flexible part-time options for the defense and public service communities. As a DL program, we already adhere to provincial-level quality assurance but will be seeking external validation through professional accreditation. This case study in progress is to encapsulate our lessons learned as we approach accreditation and to address current and upcoming challenges and opportunities for greater stability. In consideration of the implications for military education - the case study will address how our varied PME programs integrate into the graduate-level management degree learning expectations through a variety of means, including our new proposed laddering opportunities.

ON-DEMAND SESSION

Educational Technology

Enhancing Outcome-Based Military Education: Analyzing Perusall Activity in Strategy and Security Studies

E-Lu Chen, Robert Nyland, & Carl Watts

In May of 2023, three courses in the Strategy and Security Studies Department of the Global College of Professional Military Education (GCPME) received intensive course updates -- including content, materials, learning activities and assignments -- to meet Outcome-Based Military Education (OBME) requirements. The three courses are organized in a suite level - the National Security Suite and are taken in sequence of self-paced and facilitated online learning experiences as ISS-601S: National Security and Strategic Competition, WAR-601S: Warfare Studies, and ISS-602A: Making Decisions: Strategy and War. Perusall, a collaborative learning tool, is used in the suite for promoting peer interaction through asynchronous annotation and discussion of assigned readings. In fact, learners in both courses are required to complete different Perusall collaborative review assignments to meet the course learning outcomes that are based on OBME requirements. In this work in-progress study, we will investigate the relationship between student activity in Perusall and their overall fulfillment of suite outcomes. In particular, we will explore the following: How does activity in Persuall assignments relate to overall achievement in the course? What themes can be generated from Perusall annotations, and how are the themes associated with course learning outcomes and lesson level objectives? This study will utilize learning analytics data from both Perusall and Canvas to conduct the analysis.

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ON-DEMAND SESSION

Research Methods

Imagining Assisted Research Futures: How Can AI Writing Tools Extend and Supplement Research Processes?

Ms. Trish Harris

The Study of Teaching and Learning (SoTL) is a growing field of research that seeks to understand how teaching and learning happen in higher education. SoTL researchers use a variety of methods to collect and analyze data, including surveys, interviews, observations, and document analysis. However, these methods can be time-consuming and labor-intensive. This presentation explores how generative AI tools can be used to supplement and extend the SoTL research process. It discusses how generative AI tools can be used at each stage of the SoTL research model and suggests a pilot study that will use AI tools to support SoTL research. Generative and autonomous AI tools can be used to develop research designs and questions; generate possible research methods based on the research questions; collect data; generate survey or interview questions; help analyze data, including generating code for data analysis or visualizations of data; generate tables or figures to present results; generate a list of possible conclusions based on the results. This paper proposes a pilot study to explore how AI writing tools could be used to support SoTL research. The study will involve a group of SoTL researchers who will use AI writing tools to collect and analyze data for their research projects. The results of the study will reveal whether generative AI tools can be a valuable tool for SoTL researchers. This study will use comparative research methodology, using 3-4 generative AI tools plus AutoGPT and using the model within the generative and automated AI tools at each level (and possibly all levels) of the SoTL research process.

RQ: How can the SoTL research model (research questions; research design; surveys, interviews, observations; results; analysis; theorizable conclusions) be best supplemented, supported, and extended by the addition of generative and autonomous AI as partner?

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