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Table of Contents

Welcome to the seventh issue and our fourth year of publication of the *Journal of Military Learning* (*JML*), the Army University's professional educational journal. As the editor in chief of the *JML*, I am honored by the incredible professionalism and dedication that our authors, editors, and reviewers have demonstrated in bringing this issue to you. Just as Army University continues to strive for academic excellence, we strive to achieve the highest educational writing standards; our goal as a peer-reviewed, semiannual publication is to improve education and training for the U.S. Army and to enhance the Army's professional military education (PME) system and the overall profession of arms.

The *JML* brings current adult-learning discussions and current educational research from the field for the development of our current and future leaders, PME faculty, and all levels of Army staffs. Accordingly, the peer-reviewed articles in this edition include metacognition and the military learner, humanitarian assistance and disaster relief competencies and training, and learning challenges faced by transitioning military. Our articles of interest include discussions on the evidence-based approach to learning, modernizing learning, and the importance of teaching followership.

I encourage soldiers, instructors, researchers, and military professors, both uniformed and civilian, to continue to submit articles to this educational journal. Only through critical thinking and challenging our education paradigms can we as a learning organization fully reexamine and assess opportunities to improve our military education.

A detailed call for papers and the submission guidelines can be found at https://www.armyupress.army.mil/Journals/Journal-of-Military-Learning.

Col. Paul E. Berg, PhD, U.S. Army
Journal of Military Learning
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Metacognition and the Military Student

Pedagogical Considerations for Teaching Senior Officers in Professional Military Education

Angelle A. Khachadoorian and Susan L. Steen
Air Force Culture and Language Center

Lauren B. Mackenzie
Marine Corps University

Abstract

This article explores the role of metacognition as a skill set of and a teaching tool for senior-level military students. The authors offer pedagogical practices they have gleaned from their experiences teaching at U.S. Air Force and U.S. Marine Corps senior-level schools, and they argue that metacognition is a key element in professional military education. The three teaching vignettes provided reflect the metacognitive processes associated with planning, enacting, and evaluating course content and are accompanied by a set of recommendations that can be extended across a range of professional learning contexts.

Senior officers in today's military are highly educated professionals (Parker et al., 2017). Members of the military are situated on a continuous timeline of educational and training requirements, a portion of which are referred to as professional military education (PME). These requirements are designed with attention to adult learning theories and practices, and serve millions of Department of Defense personnel (Persyn & Polson, 2012; Waggener, 2015). For senior officers (field grade O-4 and above), PME offers opportunities for 10-month-long master's degree programs by senior service schools, both in residence and online.

PME for senior officers is intended to develop and refine the habits of mind needed for more advanced leadership positions where they will be asked to think both "jointly" in understanding the roles and relationships among all services, and "strategically" in recognizing "complex ends and long-term effects difficult to plan [for] and foresee" (Bonadonna, 2018, para. 2; see Dempsey, 2012).

Utility of Metacognition for Professional Military Education

Metacognition is the ability to predict and monitor one's own learning (Bransford et al., 2000). More casually, it is often described as "thinking about thinking." This article leverages the authors' more than 25 years of combined experience teaching senior officers to promote pedagogical tools emphasizing metacognition by both students and their teachers as a particularly effective approach to teaching senior officers in a variety of PME in-residence settings.

Metacognitive practices contribute to long-term, lasting learning, according to DePaul University's Center for Teaching and Learning (2019). Teaching praxes

Angelle Khachadoorian, PhD, is an associate professor of anthropology in the Air Force Culture and Language Center (AFCLC) at Air University. She holds an MA and a PhD in cultural anthropology from the University of New Mexico. Khachadoorian has taught a range of college- and graduate-level courses for more than 20 years. She has been at the AFCLC for eight years and is affiliated with the Air War College. Previously, Khachadoorian taught for the Bureau of Indian Affairs and taught in civilian and Air Force postsecondary educational settings. Her research interests include Native American, indigenous, and tribal cultures; group and individual identity; U.S. Air Force culture; community memory; culture change and cultural continuity; and the ways in which tribal groups intersect with nation-states.

Susan Steen, PhD, is the assistant professor of cross-cultural communication at the Air Force Culture and Language Center, where she designs and develops curricula, conducts research, teaches and trains, and advises students. Her work involves military service members from enlisted through general officer, in residence and online, at the graduate and undergraduate levels, and she currently serves as the president of Air University's Faculty Senate. She earned her PhD in communication from the University of Southern Mississippi, and she has held a variety of positions in the field of international and intercultural education. Her scholarship includes intercultural, interpersonal, and organizational communication, and she is the recipient of the 2017 Air War College "Excellence in Electives" course award.

Lauren Mackenzie, PhD, is professor of military cross-cultural competence at the Center for Advanced Operational Culture Learning, Marine Corps University. She also chairs the Marine Corps University faculty council and serves as an adjunct professor of military/emergency medicine at the Uniformed Services University of Health Sciences. Mackenzie earned her MA and PhD in communications from the University of Massachusetts and has taught intercultural communication courses throughout the Department of Defense over the past 10 years. She has authored 20 peer-reviewed publications devoted to various cultural considerations for teaching and learning, with recent entries in the *International Encyclopedia of Intercultural Communication* and the *Marine Corps University Journal*. She is also the coauthor with Kerry Fosher of the *Culture General Guidebook for Military Professionals*.

consistent with metacognitive approaches to learning "include those that focus on sense-making, self-assessment, and reflection on what worked and what needs improving" (Bransford et al., 2000, p. 12), and these activities enable students to better apply and adapt their learning to new tasks and contexts.

This article offers a brief overview of characteristics of senior officers as students, introduces key concepts in metacognition, and makes recommendations for pedagogical practices that emphasize metacognition in a variety of PME settings to capitalize and build on existing metacognitive skills of these students.

Although PME has received attention of late in such national security-focused media as War on the Rocks and the Strategy Bridge, greater emphasis has been placed on the "what" (curricular content and student outcomes) than on the "how" (teaching methodologies and philosophies) (Augier & Hughes, 2019; Bonadonna, 2018; Morgan-Owen, 2018; Venable, 2019; War on the Rocks, n.d.; for exceptions, see Carter, 2010, and Johnson-Freese, 2013). Attention to metacognition in pedagogical practices in PME helps to satisfy the "how" question in this teaching equation.

There are ongoing discussions and debates about the current models of PME, surrounding issues of course content, academic rigor, breadth of topics, and the overall professional needs of its students (Johnson-Freese & Kelley, 2017; Shanks Kaurin, 2017). Arguments include whether PME should offer a broad but shallow overview of relevant disciplines, granting graduates a "wider expertise and flexibility across a range of areas, with an ability to move between both and be competent and lead in different areas" (Shanks Kaurin, 2017, Two Paths section, para. 2) or hold students accountable to academic standards equivalent to civilian graduate-level programs (Murray, 2016). Meanwhile, PME faculty continue to develop "critical and reflective thinkers who broadly view military affairs across an array of academic disciplines" (Chairman of the Joint Chiefs of Staff [CJCS], 2015, p. A-A-1). Therefore, regardless of where a teacher stands on the content, rigor, and program outcomes debates, metacognitive pedagogy benefits the students and their learning outcomes, especially in the effort to build senior military leaders who "possess acuity of mind at the highest level" (CJCS, 2015, p. A-A-1).

Relevant Characteristics of Senior Officers as Students

As students, senior officers bring many positive characteristics to their educational activities. Teachers can assume these students are comfortable with hierarchical relations in professional settings, are focused on mission and goal accomplishment, and "are respectful, follow instructions, and observe deadlines" (Smucny & Stover, 2013, para. 5). Senior officers are adept at responding appropriately to critiques, standards, and expectations in a timely and suitable fashion; they are accustomed to satisfying professional and educational requirements with little to no guidance or oversight. They hold themselves and their peers accountable to standards of integrity, and they are rou-

tinely evaluated on successful attainment of externally imposed goals in their annual performance appraisals. As a result of frequent job changes and their concomitant new performance expectations, senior officers have notable skills in learning and applying new content quickly and effectively in order to successfully fulfill their job duties.

Metacognition: Effects, Elements, and Strategies

Use of the term metacognition (as introduced by Flavell, 1979) in relation to adult educational practices and theories references "higher order thinking which involves active control over the cognitive processes engaged in learning" (Livingston, 2003, p. 2). The two fundamental, and equally important, components of metacognition are *reflection*, or consciously thinking about what we know, and *self-regulation*, or actively managing how we learn (Darling-Hammond et al., 2003). The student owns and manages the practice of his or her own learning through techniques, attitudes, and processes (such as linking new knowledge to existing cognitive frameworks) for their own educational success. Broadly speaking, metacognition encompasses the myriad collection of facts, experiences, processes (or strategies), consequences (or effects), and aspects of self-knowledge that an individual activates in any learning event.

Metacognition research often describes the *effects* of metacognition on students, the *elements* or subcategories of metacognition that make up the larger construct, and the *strategies* that students use when they are metacognitive in their learning practice. The effects, elements, and strategies most relevant to the teaching vignettes in this article are outlined below.

Effects. There are multiple positive effects that come from an individual's metacognitive activity. One significant effect of metacognition discussed in the first teaching vignette is the reduction of confirmation biases as individuals question the origins of their cultural stereotypes and update their knowledge. Such thinking processes have the potential to positively impact the growth of an individual's intercultural effectiveness by promoting *contextualized thinking* and increasing *cognitive flexibility* (Chua et al., 2012; Mor et al., 2013).

Elements. Metacognition does not stand alone from but rather acts as a bridge between cognitive and behavioral aspects of learning, or between critical thinking and learning processes (Kuhn & Dean, 2004). The utility of metacognition to higher-order thinking and social interaction is widely recognized as a means of *linking* abilities: this is what I know (cognitive), this is how I think I should apply what I know (metacognitive), and this is what I do with what I know (behavioral) (Sieck, 2018).

Strategies. Those who are skilled in metacognition monitor their progress as they learn, make changes, and adapt their strategies if they sense they are not doing well. Some strategies that students use, and that teachers can find ways to integrate into courses, include the "think out loud method"; working forward from given informa-

tion to finding unknowns; predicting the difficulty of solving problems; and monitoring their own problem-solving strategies (Bannert & Mengelkamp, 2008; Ku & Ho, 2010; Sternberg, 2001, p. 253).

Metacognition and the Connection to Professional Military Education

The Chairman of the Joint Chiefs of Staff's (2019) *Vision and Guidance for Professional Military Education and Talent Management* emphasizes consistently prioritizing critical and creative thinking, continuous learning, and cross-domain collaboration. In addition to the benefits of metacognition in itself, metacognitive thinking uses skills that support critical thinking such as "the ability to consider the basis of one's own beliefs" and "considering the relationship between one's conceptions and any evidence that might or might not support those conceptions" (Lai, 2011, p. 12).

Metacognition offers an effective means of engaging senior officers in learning, especially in PME settings. PME institutions are specialized professional schools designed to expand senior officers' skills within their existing knowledge base. In that way, PME students do not differ from attorneys, physicians, dentists, and others whose postlicensure education is focused on honing the expertise of a specialized professional identity. Professional schooling is designed to prepare students in part to "think like" whatever professional identity they are working toward (Sullivan et al., 2007, p. 5). Senior-level PME across the services offers varied opportunities to practice critical thinking. Unfortunately, metacognition is often left out of the discussion.

Teaching Vignettes

The U.S. Marine Corps War College (MCWC) and the U.S. Air War College (AWC) are both degree-granting, graduate-level, 10-month long programs. Graduates from both schools will receive a Master of Strategic Studies degree. The Air Force Culture and Language Center (AFCLC), under the leadership of AWC, serves the total Air Force as the center of expertise on culture and cross-cultural competence. As with all senior-level schools, their student populations are comprised of members of that service, international students, civilian leaders from various U.S. agencies, and members of the other branches of service, allowing students access to diverse perspectives.

The teaching vignettes used in this article are drawn from three courses the authors have designed and/or taught and which have been honed over time as recognized by MCWC and AWC. This diversity of teaching settings demonstrates the utility of emphasizing metacognition regardless of the length of the teaching event, the course topic, course objectives, the number of students, or the specific service

school. The first vignette reviews a two-hour introductory seminar for O-5s (lieutenant colonels) and their international and civilian equivalents; the second is a semester-long graduate-level course for O-5s and O-6s (colonels) and their international and civilian equivalents; and the third is an executive-level, three-to-five-day course customized for individual general officers.

Vignette #1: Introducing Metacognition in the Curriculum at the Marine Corps War College

The MCWC in Quantico, Virginia, is considerably smaller than its sister service counterparts with an average attendance of 28 to 30 students per year. The MCWC Metacognition seminar was first offered in 2018. After a successful pilot, the MCWC leadership made the seminar part of the core curriculum, noting its utility for (1) reminding students of the various factors of metacognition (many of which operate outside of awareness) impacting their thought processes and (2) offering an introductory class to prime students for the three subsequent "thinking" classes in the curriculum: critical thinking, systems thinking, and creative thinking. The seminar is now delivered the first week of the academic year and lasts approximately two hours. It has three educational objectives that will be reviewed along with the supporting readings for each.

Assess value of metacognition. The first objective asks students to assess the value of metacognition. The class discussion and accompanying readings argue that metacognitive practices help students become more aware of their strengths and weaknesses as students and leaders. Such practices can be elicited by questions such as the following:

- How do you react when you realize your assumptions about [fill in the blank] are inaccurate?
- How has your thinking about [fill in the blank] changed over time?

The "Thinking About Thought" section from Nisbett's (2015) book *Mindware* offers students insights on foundational concepts such as schema, construal, and framing in addition to covering attribution errors, hindsight bias, and spreading activation, which can influence an individual's decision-making processes.

Predict outcomes. The second objective asks the students to predict the potential outcomes associated with the absence of metacognitive involvement. For example, students are asked questions such as the following:

- Can you recall a time when you were keenly aware of the extent of your ignorance?
- Which frames of reference had to change for you to come to this realization?
- Can you walk us through your logic as this realization unfolded?

Conveying the utility of being aware of a student's own thought processes (especially those that they come to recognize as flawed) requires teachers to emphasize the professional value of this type of insight**.** To support this learning objective, students are asked to read the article "Why People Fail to Recognize Their Own Incompetence," which

describes how in many cases, across varied contexts, a little knowledge can lead to a lot of overconfidence (Dunning et al., 2003). The article offers some explanation as to how the absence of metacognition can lead to inaccurate self-impressions and paves the way for reexamining the kind of critical and creative thinking skills (characterizing critical thinking as evaluative and creative thinking as exploratory and generative) that will be required of students as the future leaders of the U.S. Marine Corps.

Evaluate interaction. The third educational objective asks students to evaluate an intercultural context in which metacognition affected the outcome of the interaction. They further evaluate the skills, attributes, and behaviors with respect to metacognition needed to lead in a dynamic joint, interagency, intergovernmental, and multinational strategic environment. The assigned excerpt from Sieck's (2018) *Metacognition in Intercultural Communication* discusses the importance of cultural values as sources of potential friction for leaders and offers some metacognitive strategies to practice when an intercultural interaction is not going as planned. Schein's (2017) "The Change Leader as Learner" chapter is used to help students examine the leader's role in organizational culture and for "the ability to generate new responses … [and] to accept errors and failures as learning opportunities" (p. 345), thus aligning with the CJCS (2019) guidance devoted to continuous learning.

Students are expected to offer critical evaluative comments in seminar discussions that clearly demonstrate their capacity to question their own assumptions and practice reflective skepticism in order to better understand and frame issues, challenges, and problems. Students are assessed—through their class contributions in the dialogue and through showing connections to the required readings—about their understanding of metacognition and its applicability to strategic thought.

Recommendations for Applying in Other Contexts

1. Teachers should remember that they are not only teaching content about metacognition but also applying metacognitive instructional strategies to teaching such content. This can be achieved by articulating their thought processes as often as possible (e.g., use the opening minutes of seminar to walk students through the logic of *why* this course, these readings, those discussion questions, etc.) so as to enact the kind of self-awareness the course advocates. Teachers should also make explicit that while some of this content may seem self-evident (a) just because it is common sense does not mean it is common practice; (b) students cannot know exactly what lays ahead for them in their career, hence the "preparation for the unknown" aspect of education; and (c) there is *always* room for improvement, as CJCS (2019) notes in its verbiage about continuous learning.
2. To avoid too much abstraction in a discussion about metacognition, the teacher should offer opportunities for students to practice recognizing cognitive shortcuts

and biases in a specific context. For example, assign a short but relatively controversial article (e.g., President Donald Trump's pardoning of a Navy SEAL's war crimes) for students to read in advance. Once in class, display some of the more extreme reader comments for students to examine. This helps them become more comfortable recognizing and labeling biased and/or flawed thinking.

3. Recognizing that metacognition might, at the outset, seem to be primarily advocated for by civilian academics, the teacher should provide examples of what higher ranking (higher than the students) military leaders have to say about the value of metacognition. See, for example, Gen. John Kelly's personal example from *The Leader's Bookshelf*, detailing how thinking can and should be systematically cultivated (Stravidis, 2017).
4. Although it is not feasible for all PME programs to include metacognition as a stand-alone seminar topic, there are ways to integrate a deliberate discussion devoted to "thinking about thinking" in the kinds of leadership, communication, and critical thinking classes more commonly taught across the PME spectrum. Provide a one-page handout at the beginning of the academic year with recommended readings (see, e.g., Nisbett, 2015; or Sieck, 2018), common barriers (e.g., cognitive biases and heuristics), and recommendations that could be applied regardless of the seminar topic.

Vignette #2: Metacognition in Classroom Teaching Practices

The second vignette involves an intercultural communication graduate-level, semester-long, elective course offered to students at the U.S. Air War College, a 10-month school at Air University, located at Maxwell Air Force Base, Alabama. The course meets for 10 three-hour seminars over 10 weeks, with each lesson featuring a blend of guided discussions and exercises that help connect the major lesson themes to real-world applications. The two elements of metacognition: reflection, or consciously thinking about what students know, and self-regulation, or actively managing how students learn, are modeled in the three course activities below (Darling-Hammond et al., 2003).

Goal setting. At the initial class meeting, students are asked to reflect upon and write their learning goals for the course, addressing questions such as the following:

- Why did you choose this course?
- Why do you find the subject matter interesting/important?
- What experiences have prompted your interest in this subject area?
- What outcomes do you hope to gain?
- What does "successful completion" involve for you?
- How might you go about achieving your goals (i.e., what learning strategies you may employ)?

This activity follows Lang's (2019) recommendation in encouraging students' metacognitive consideration of the learning strategies they will need to successfully complete the course and the kinds of support they may need to enact these strategies from the very first day of class. Moreover, the practice engages the personal autonomy of self-directed learning, in which students take "control of the goals and purposes of learning and assuming ownership of learning" (Candy, 1991; Knowles et al., 2015, p. 171).

As a way of encouraging students to consider how they are progressing and as a means of determining if adjustments by students and/or teacher are needed, the students are asked at the course midpoint to recall their original course goals with questions such as the following:

- Have your goals changed or are they the same as when you began?
- What progress are you making toward them?
- Are adjustments needed to strengthen your progress?

This practice requires that students "actively monitor their learning strategies and resources" (Bransford et al., 2000, p. 67) and employ corrective action as needed, thus fulfilling the metacognitive "monitoring or self-regulatory purpose" (Sieck, 2018, p. 3) affecting the "executive control processes of planning, monitoring, adjusting, and reflecting" (p. 3).

Lang (2019) advocates an end-of-course practice that helps students connect back to their first day of class and consider their learning progress since then. Accordingly, during the final class session, students again review their "course goals" and reflect on whether their goals have been met, the most important things they have learned, and how they anticipate the ways in which this knowledge will aid them in their future roles. Additionally, students are asked questions such as

- How can you continue to develop intercultural mindsets and skill sets in formal and informal ways?
- How and why do you believe this will be beneficial?

These kinds of questions can help students actively envision how they might apply their new knowledge to different tasks and contexts, a key outcome of metacognitive activity (Bransford et al., 2000).

Decision-making. A second metacognitive strategy is to provide students with the opportunity to make choices about prescribed readings, course activities, and discussions in ways that best support their own interests and goals. These decision-making strategies can take several different forms within classroom activities, such as allowing students to choose the optional course readings most relevant to their goals; or the teacher soliciting students' input on when they would benefit from changing topics versus participating in activities designed to help them apply some element of the lesson. This decision-making is a deliberate way to engage students' metacognitive processes in considering what will best facilitate their learning.

Leading class. By the end of the semester, as the students have become comfortable with the previously described goal setting and decision-making within the course,

they are required to conduct a key lesson themselves, deciding topics, structure, and leadership while the teacher observes. They are given a variety of resources to choose from in planning and executing the lesson, with the requirement that its main themes be addressed in multiple ways (e.g., via discussion, group activity, etc.). To successfully complete the assignment, students must consider the goals of the lesson, decide as a group what strategies will help them best achieve those goals, and consider how well the strategies are working throughout the class session. Thus, students engage the monitoring function of metacognition that involves planning approaches to tasks, paying close attention to activities, and checking outcomes against goals (Brown et al., 1983).

Recommendations for Applying in Other Contexts

1. The teacher should encourage students to engage in goal setting and in monitoring their progress toward their self-defined goals while evaluating how well their learning strategies are working.
2. The teacher should empower students to make decisions about what knowledge is most relevant to them (through reading choices) and about in-class strategies that will best support achievement of their learning goals (through opportunities to choose among discussions and/or exercises).
3. At the end of the course, the teacher should invite students to revisit their goals and reflect on what they have learned in order to help students anticipate and consider how their newfound knowledge might usefully transfer to different contexts.

Vignette #3: Metacognition through Repeated Self-Assessment of Goals

The following teaching vignette examines the General Officer Pre-Deployment Acculturation Course (GOPAC), designed and taught by the AFCLC on-site at Air University's campus on Maxwell Air Force Base, Alabama. This course is an individualized, voluntary, ungraded executive education and training seminar offered to Air Force general officers who are selected for key command positions overseas. The course covers specialized topics that are taught in one- to three-hour blocks over three and a half days.

GOPAC prepares general officers for complex cultural and political settings and grew out of a request by the commander of the International Security Assistance Force that "the Air Force Chief of Staff ensure Air Force senior leaders receive thorough preparation in language and culture prior to deployment" (Air Force Culture and Language Center [AFCLC], 2009). The course has been taught with varying

lengths and content for more than 50 students and has been consistently refined since its inception in the fall of 2009. Even with the significant time and training requirements expected of deploying general officers, GOPAC gained such traction through powerful word-of-mouth that it has grown exponentially from its early incarnations. A typical student response was made by an Air Force major general alum: "Every graduate that I have spoken to made sure to tell me not to miss this course and its amazing training" (AFCLC, 2018).

GOPAC is rigorously tailored for the individual general officer who is typically the only student in the classroom. The course is focused on the location of his or her assignment, the specifics of his or her job, and the exact time frame in which he or she is operating. No two GOPAC courses are the same, even between individuals taking over a command position from a previous GOPAC alumnus.

Offer choices in subject and teaching style. GOPAC has evolved significantly since its initial offerings to ensure content is most useful and relevant to the students' needs. These refinements include a practice first proposed in 2014, but only implemented in the past year and a half, in which incoming students are offered a "deli menu" of course content options. These options are based on topics that faculty, subject-matter experts, outgoing incumbent general officers, and the incoming students all deem relevant and significant. Incoming students, all of whom are highly experienced professionals, are metacognitively skilled enough to recognize areas where their knowledge scaffolding might need additional supports.

Ongoing student self-assessment of learning. Because the course structure includes multiple steps of student self-assessment, students are encouraged to think metacognitively prior to, throughout, and after the course. The precourse design process utilizes a combination of practices that require incoming students to think metacognitively about their own current knowledge base (reflection) and plan learning strategies (self-regulation), while also making the students aware of the metacognitive teaching practices that the faculty lead is employing (Tanner, 2012).

Prior to attending GOPAC, and in addition to the course's mandatory topics, students are asked a series of questions about their goals for the course and the content that they wish to see covered. The types of questions that can be asked of senior-level leaders include

- Are there particular topics that you feel you need to know more about?
- Are there particular teaching styles that are most effective for your learning?
- What topics do you feel confident that you already know well?

The students are informed that their feedback will be used by the AFCLC GOPAC faculty lead and teaching team to design the individualized course.

A daily practice of midcourse assessment is again predicated on the assumption that these students can effectively assess their own learning successes or weaknesses. Students are asked at the end of each class day several questions about the course content, course structure, and their own learning. Examples of effective questions include the following:

- Was the format of today's lessons conducive to achieving your learning objectives?
- Was today's course content at the appropriate educational level?
- Were there any topics that you feel needed more or less teaching time?

Students are asked to be candid, and they offer their feedback in a private setting. Student feedback throughout the course supports teacher metacognition as well and requires teachers to reflect on their own practices and adjust accordingly (Tanner, 2012).

Use alumni reflection to shape future course iterations. The last stage of GOPAC assessment occurs when the general officer alumni are asked to reflect on their learning in the course after having spent six months in their deployment. They are encouraged to offer suggestions or recommendations for changes to the course, as filtered through their lived understanding of their current position. Examples of effective questions at this stage include the following:

- Which parts of the course contributed most to your learning?
- What impact has this course had on you and your ability to perform your job?
- What topics should be included in future iterations of the course?

General officers at GOPAC share many of the cognitive and behavioral attributes of military students described earlier in this article, as well as distinctive characteristics befitting their advanced rank and unique professional positions. They can adapt quickly to new cognitive challenges and often have extensive operational experience, having been deployed to international settings and combat zones. They can recognize the limitations in their own thinking because "[s]trategic thought involves and often demands a multiplicity of voices, of competing concerns and outlooks" (Bonadonna, 2018, para. 5). While this distinguishes the GOPAC students and enables the AFCLC to design a highly tailored educational program, the teaching practices described here are applicable to other settings and students as well.

Recommendations for Applying in Other Contexts

1. The teacher should continually assess the course through the lens of the student, his or her educational goals, and how the student perceives his or her own learning needs. In this process, make certain that the student realizes that self-assessment is not a "gotcha"; rather, it is an effort to best design a course that suits the senior leader's needs.
2. The course should be structured so students have mechanisms to give continual and honest feedback on what content and processes are working best for their learning. For an intensive, multiday course, the teacher can schedule this step at the end of the day while that day's classroom experiences are still fresh. This allows the teacher time to make responsive changes to the course.
3. Build agility into the course, whether that means to leave open blocks of time in the schedule for additional topics or the willingness to drop a topic if it

is not viable for the student. Agility allows for course corrections, both minor and significant, to best meet student needs. This is an intensive process but foundational to providing a truly tailored course. Agility becomes a goal, rather than a distraction.

4. Utilize the metacognitive skills of alumni to help shape future iterations of the course as well. Alumni feedback benefits the teacher as well, as the student and teacher reflect on the aspects of the course with the most utility for the student. Seek feedback at several stages from course alumni about how their learning experience and the course content align with their current knowledge base. Specifically ask what course content was most useful and/or relevant to their jobs and request suggestions for additional course topics for future GOPAC attendees for that position.

Conclusion

The authors of this article have described multiple types of teaching/learning contexts in which pedagogical practices attuned to student metacognition in learning and course design utilizing a metacognitive approach to teaching can benefit senior officers in a PME setting. These practices utilize the strong metacognitive skills of senior leader students in PME.

The vignettes and accompanying recommendations about metacognition and pedagogy are offered in the hopes that they may be usefully adapted to different instructional contexts within PME as an effective means of engaging senior military students in "thinking about thinking."

Disclaimer: Opinions, conclusions, and recommendations expressed or implied within are solely those of the author(s) and do not necessarily represent the views of the Air University, the U.S. Air Force, the Department of Defense, or any other U.S. government agency.

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Humanitarian Assistance and Disaster Relief Competencies and Training Pertinent to the Military Health System

Capt. Paul Reed
U.S. Public Health Service Commissioned Corps

Maj. Jaimie Laib
U.S. Air Force

Kandra Strauss-Riggs and Thomas D. Kirsch
National Center for Disaster Medicine and Public Health

Abstract

Commensurate with the expansion of professional demands on U.S. military personnel in humanitarian assistance/disaster relief operations (HA/DR), the military medical community must be sufficiently well trained to address medical and public health needs in all-hazards disaster situations to include earthquakes, hurricanes, emerging infectious diseases, and complex crises. Despite a burgeoning demand for HA/DR expertise in the military health system, professional competencies and training requirements have yet to be codified in Department of Defense (DOD) doctrine. The principle objective of this research is to identify DOD training courses and educational opportunities that could be matched with disaster medicine and public health competencies. The search strategy identified 196 courses meeting inclusion criteria from across the service branches and the joint community of the DOD. The findings yield evidence of clear gaps in education and training opportunities, including a lack of topics dealing with core public health and medical HA/DR competencies. This gap potentially leaves the public health and medical workforce largely unprepared for the increasing role they are likely to perform in HA/DR missions.

Disaster frequency and severity continue to increase worldwide, and there has been commensurate global reliance on the U.S. military to support disaster relief operations (DiGiovanni, 2016; United Nations Office for the Coordination of Humanitarian Affairs, 2018). Though the Department of Defense (DOD) historically has engaged in less than 10% of international disaster response operations, as declared by the U.S. Agency for International Development's Office of Foreign Disaster Assistance, that overall number is increasing as are the number of domestic U.S. disaster response operations supported by the DOD under Defense Support to Civil Authority guidelines. The DOD has conducted more than 50 humanitarian assistance or disaster relief (HA/DR) missions of varying scale in the past 15 years alone (DiGiovanni, 2016). Modern defense force readiness relies heavily on complex standards for individual readiness and training to ensure mission success, while escalating demand for HA/DR missions requires an expansion of roles and capabilities within the military medical corps to meet the medical and public health needs of all-hazards disaster situations to include earthquakes, hurricanes, emerging infectious diseases, and complex crises. The DOD has evolved its policy, doctrine, and operational standards to enable more effective preplanned humanitarian assistance, defense support to civil authorities in domestic disaster response, and foreign disaster relief

Capt. Paul Reed, MD, U.S. Public Health Service Commissioned Corps, is a senior U.S. public health service officer and former deputy director at the National Center for Disaster Medicine and Public Health. In July 2019, Reed assumed the role of deputy assistant secretary for health (science and medicine). His primary responsibility is to provide oversight, direction, and coordination of activities pertaining to complex public health and emerging science issues particularly those affecting Department of Health and Human Services. Reed previously helped establish the Department of Defense's Center for Global Health Engagement and served as the deputy director for operations in the Division of Civilian Volunteer Medical Reserve Corps and director for global health operations for the Office of the U.S. Surgeon General. His responsibilities have included support for readiness and deployment of public health service officers for domestic and international humanitarian assistance operations. Reed maintains faculty appointment in global health, military and emergency medicine, and pediatrics at the Uniformed Services University, in Bethesda, Maryland.

Maj. Jaimie Laib, RN-BC, MPH, U.S. Air Force, is assigned to the 20th Medical Group (MDG), Shaw Air Force Base, South Carolina, serving as the health-care integrator and director of medical management. Laib has more than ten years of nursing experience and is board certified in medical/surgical nursing. She has an educational background in disaster preparedness and response, studying emergency management at undergraduate and graduate levels, and has field experience in both domestic and international capacities. Laib deployed to Afghanistan on a forward surgical team in support of Operation Enduring Freedom, and she currently leads a mass casualty response team for the 20th MDG.

operations (Department of Defense [DOD], 2010, 2012, 2016, 2017). However, there has not been systematic standardization of competencies for disaster preparedness and response personnel, nor training directed at ensuring those competencies in the workforce across the DOD. This is particularly true for military medical personnel and the medical/public health competencies requisite in HA/DR operations.

Disaster medicine and public health competencies have been defined in the literature for civilian disaster/humanitarian planners, managers, and responders, though they are not codified in DOD doctrine, despite a burgeoning demand for them in the military (Blanchard, 2005; Feldmann-Jensen et al., 2017; Subbarao et al., 2008; Walsh et al., 2012).

This study was undertaken to assess what education and training opportunities currently exist within the DOD that may meet medical and public health competencies for personnel in the context of disaster preparedness and response, and how such competencies are or are not defined in DOD policy, doctrine, and real-world prece-

Kandra Strauss-Riggs, MPH, serves as the education director of the National Center for Disaster Medicine and Public Health (NCDMP), an academic center of excellence of the Uniformed Services University of the Health Sciences (USU). Strauss-Riggs brings a particular focus on adult learning and the issues that impact children and other vulnerable populations in the event of a disaster. Additional research interests include gender in disasters, interprofessional education, and community resilience. Strauss-Riggs directs the Domestic Disaster Management course in the F. Edward Hébert School of Medicine at USU and serves as an adjunct instructor in the Boston University Healthcare Emergency Management program in the Department of Anatomy and Neurobiology at the Boston University School of Medicine. Additionally, she is pursuing a PhD in health professions education. Prior to joining the NCDP, Strauss-Riggs worked with the National Education Association's (NEA) Healthy Futures. She implemented and evaluated programs serving the health education needs of the NEA's 3.2 million members.

Thomas D. Kirsch, MD, MPH, FACEP, is an emergency physician with expertise in research and education for mass casualty and disaster medicine and public health. He is currently the director of the National Center for Disaster Medicine and Public Health and professor of emergency medicine and public health at the Uniformed Services University (USU). Prior to coming to USU, he was a professor of medicine, public health, and engineering at Johns Hopkins University and the director of the Hopkins Center for Humanitarian Health. Kirsch is a noted educator with more than 25 years of experience with a focus on emergency and injury care. He has worked for FEMA, Office of U.S. Foreign Disaster Assistance, Department of Defense, Centers for Disease Control and Prevention, United Nations, World Health Organization, UNICEF, Red Cross, and others. These responses include earthquakes in Mexico, California, Haiti, Chile, New Zealand, and Nepal; Hurricanes Katrina, Sandy, Haiyan, Harvey and Maria; floods in Pakistan; wildfires in California; the 9/11 terrorist attack in New York, and the Ebola virus disease epidemic in Liberia.

dents. The goal is to help inform any future efforts intended to systematically address personnel requirements in the HA/DR mission set for the DOD.

Methods

A comprehensive review of education and training courses offered within the DOD was conducted via traditional literature mapping review methodology with the intent of synthesizing and qualifying an inventory of HA/DR relevant coursework. To date, there has not been a single point of reference for DOD education and training opportunities in this content area (Grant & Booth, 2009). Data collection for relevant training and education offerings was accomplished through open internet searches using Google and searches of the following databases conducted from 3 January to 27 February 2018:

- JKO (Joint Knowledge Online)
- AKO (Army Knowledge Online)
- GKO (Guard Knowledge Online)
- ADLS (Advanced Distributive Learning Service)
- AFMS KX (Air Force Medical Service Knowledge Exchange)
- Swank Health
- Health.mil
- Total Force Virtual Learning Center
- Uniformed Services University of the Health Sciences
- U.S. Army Public Health Command.

Broadly, inclusion criteria for references to courses and training were based on the following keywords, which guided the searches: *domestic* OR *international* AND *humanitarian* OR *disaster* OR *public health emergencies*; and *Department of Defense* OR *United States Army/Air Force/Navy* OR *military* AND *competencies* OR *training* OR *skills* OR *knowledge* OR *education*. A gray literature search was also conducted to identify existing relevant competencies published by governmental organizations and other professional organizations.

DOD policies and regulations, individual service-specific doctrine, as well as doctrinal publications from the Joint Chiefs of Staff were reviewed regarding the DOD's and, more specifically, military health professionals' prescribed roles in HA/DR. Role-specific training was sought using the same criteria as above from within DOD online training platforms. Informal phone and in-person interviews with medical personnel from the Army, Air Force, Air National Guard and Air Force Reserve Component, and Army National Guard were conducted to clarify course details when necessary.

Inclusion criteria were subsequently defined in order to capture course descriptions reporting competencies and knowledge, skills, or abilities for medical and public health professionals involved with or having potential to be involved with humanitarian assis-

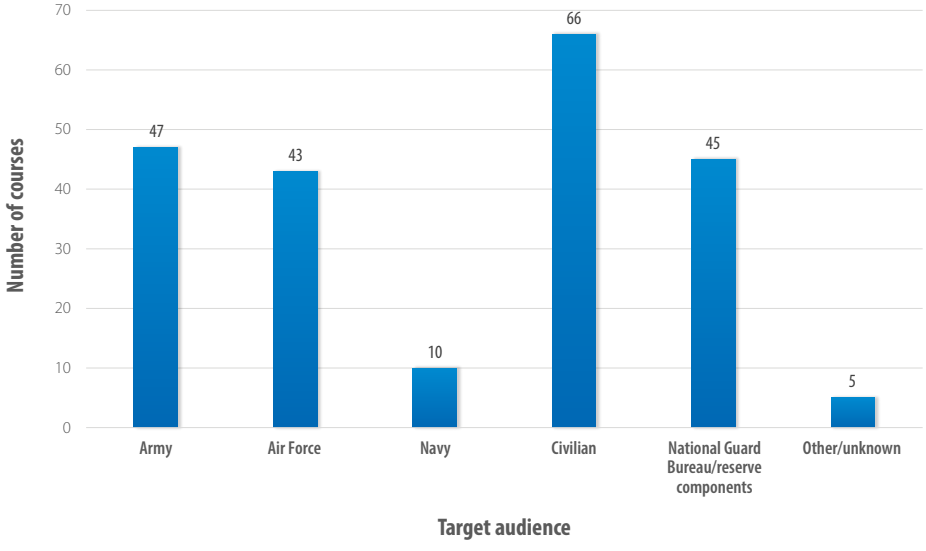

Figure 1. Courses by Target Audience. *Note:* Based on the available data, the figure may not account for all courses open to U.S. Navy audiences. Figure by Norma Quintanilla.

tance or disaster relief operations. Courses were further analyzed and coded according to the curricular content, the HA/DR role supported, and the intended target audience.

Jaimie Laib and Kandra Strauss-Riggs attempted to code courses by the predominant topic that a course addressed based upon course descriptions. Where a predominant topic was not able to be discerned for courses covering more than one subject, courses were coded under multiple content categories. Similarly, courses were coded for multiple target audiences when accommodating learners from a variety of roles. Course modality was also varied, with a selection of courses having an online prerequisite before attending a resident portion of the course. These courses were therefore coded as having both in-person and online modalities.

Coding of coursework across content, target audience, HA/DR roles, modality, and service categories, as well as any specified competencies, was intended to help define the depth and breadth of DOD curricula and any gaps relative to established civilian norms of HA/DR health and medical education and training.

Results

Three predominant themes are evident in the results of this survey: (1) there is no discernible overarching pattern or systematic approach to the curricula; (2) there are significant gaps in HA/DR competencies noted across existing curricula, at least

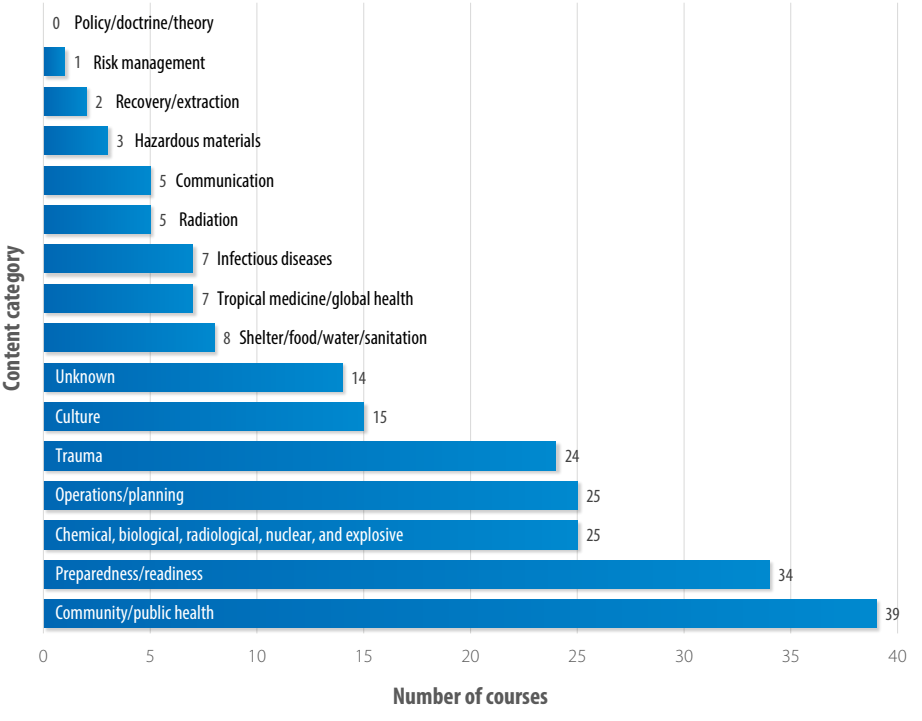

Figure 2. Course Content Categories. *Note:* The unknown category includes courses with insufficient information to categorize. Figure by Norma Quintanilla.

as defined in the civilian sector; and (3) there is no indication of a joint approach to curricula development and application.

The search strategy identified 196 courses meeting inclusion criteria from across the service branches, the joint community of the DOD, and DOD-sponsored academic institutions. Courses were identified from the following organizations: Army (n = 47), Air Force (n = 43), Navy (n = 10), Joint Knowledge Online (n = 19), DOD centers (n = 10), DOD-sponsored academic institutions (n = 13), Defense Health Agency (n = 4), and Defense Medical Readiness Training Institute (n = 19).

As shown in Figure 1 (on page 23), access to courses often depended on the specific service branch. Half of the courses were specific to an individual branch and not available to members from other services. Sixty-six courses were offered to DOD civilians, most of which were leadership related. A number of courses were open to all military branches, as well as civilians, including the Health Emergencies in Large Populations, Humanitarian Assistance Response Training, Transnational Security Cooperation, Comprehensive Crisis Management, and Hospital Incident Command System courses. The National Guard Bureau and Reserve components offer 45 HA/DR courses.

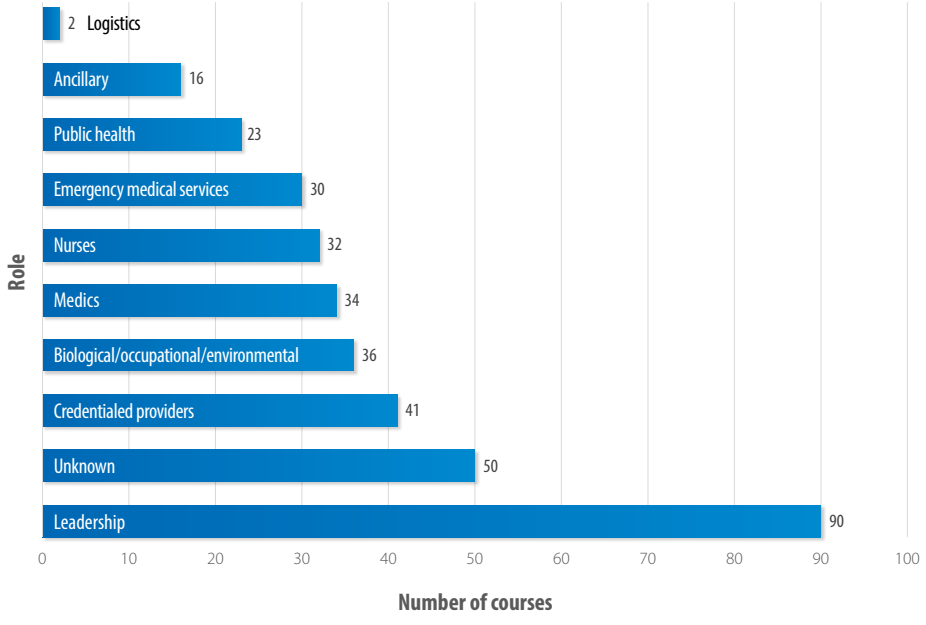

Figure 3. Courses by Role. Figure by Norma Quintanilla.

Figure 2 (on page 24) depicts the number of courses that include course content in each of 16 course content areas associated with a variety of HA/DR topics. The most prevalent content categories included community public health (n = 39), preparedness/readiness (n = 34), chemical/biological/radiological/nuclear/explosive (CBRNE) (n = 25), disaster operations/planning (n = 25), and trauma care (n = 24). All courses listed as CBRNE exclusively, as well as courses listing any of the components (e.g., chemical, biological, radiological, etc.) as topics, were included in the CBRNE categorization. Clinical and field-related courses associated with trauma and injury care represented the third-largest category of course content offered to medical professionals. The trauma category includes training such as the Tactical Combat Care Course, advanced trauma life support, and prehospital trauma life support. Although these skills are useful in many disaster settings, it is important to note that the military primarily uses such training for response to battlefield casualties and not discriminately for disasters in the civilian community. The category of preparedness/readiness encompasses a wide variety of topics, including humanitarian assistance response training, comprehensive crisis management, hospital/health-care incident command, the emergency preparedness response, stability operations, and emergency management.

When assessing the data by designated roles in HA/DR activities, the DOD largely focuses education and training toward developing military leaders across the continuum from individual unit-level leadership to executive-level commanders. Figure 3

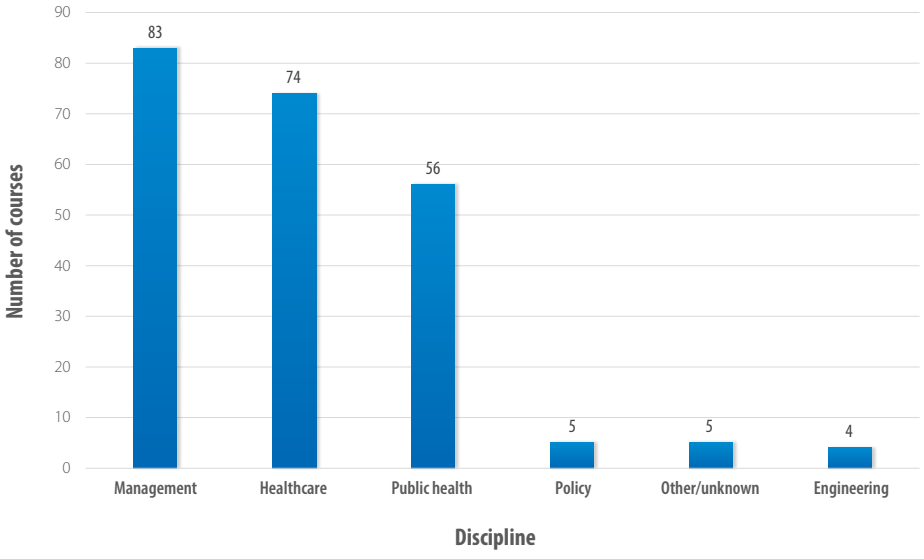

Figure 4. Courses by Discipline. Figure by Norma Quintanilla.

(on page 25) depicts the number of courses associated with particular HA/DR roles. One quarter of all courses were designed for those in leadership positions. Cumulatively, health-care professionals (credentialed providers, nurses, emergency medical system personnel, and medics) comprise the largest grouping of targeted roles (n = 137), though almost all courses with this student population in mind primarily address general clinical competencies. These competencies may be useful in HA/DR missions in some respects, but they do not explicitly reflect disaster health competencies as outlined in the civilian literature. Biomedical engineering, occupational health, and environmental health-targeted courses were categorized collectively (n = 36) as many of these courses overlapped the intended target group of professionals.

Figure 4 displays the number of courses as categorized by the professional discipline of the target audiences: management, health care, public health, policy, engineering, and unknown. The greatest number of courses open to all professions (n = 83) include, but are not limited to, Emergency Management, Radiation Event Management, Crisis Management, Hospital Incident Command, and Public Health Emergency Management. The health-care discipline categorization encompasses all aspects of medical service personnel (n = 74). The public health category includes professions related to food, water, sanitation, global health, and epidemiology (n = 56). Civil and biomedical engineering (n = 4) fall in the spectrum of medical response for the purposes of this survey because the military

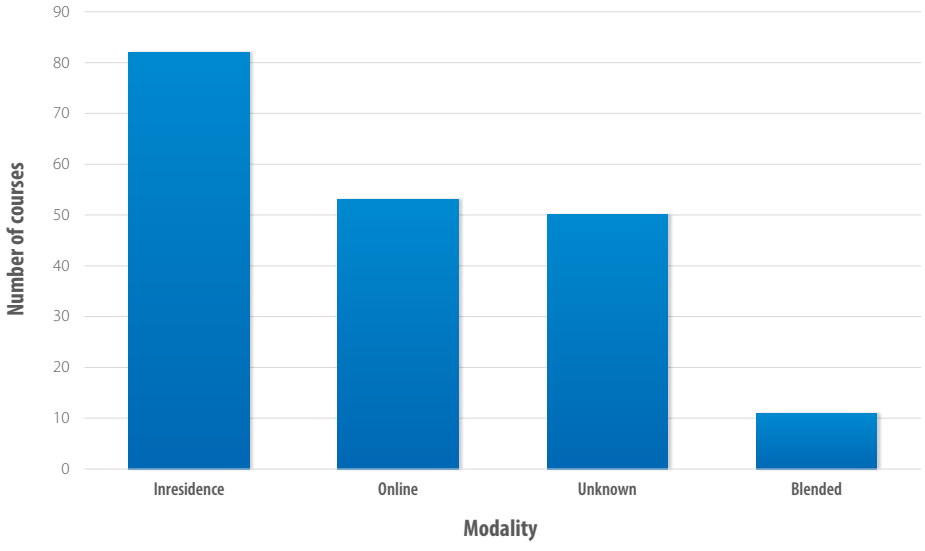

Figure 5. Courses by Modality. Figure by Norma Quintanilla.

often deploys these disciplines as part of a medical response contingent. There were few policy courses (n = 5).

Course modality and duration vary considerably, as shown in Figure 5. Courses were delivered in-person (n = 82), online (n = 53), or blended modes (n = 11). Fifty courses did not publicly specify a delivery mode (unknown). The duration of most in-person training ranged from days to months, with 25 courses greater than five days long. Content of online courses ranged from 30 minutes to over 80 hours. Just four of the online courses were longer than eight hours and 28 were between one and five hours.

The courses included in this review were not based upon disaster medicine and public health preparedness competencies, as defined by the course material. Just 11 were based on any defined and specific competency set, and those were largely clinical competencies such as the Tactical Combat Care Course, advanced trauma life support training, and prehospital trauma life support training. Of the courses in this review, 92 were knowledge-based only. Thirty-two were both knowledge- and competency-based. Eleven courses required a demonstration of skill or application of concepts during the in-person portion of the course (e.g., the Medical Readiness Management, Army Public Health Command Preventative Medicine/Public Health, and Humanitarian Assistance Response Training courses). Sixty-one of the reviewed courses did not publicly provide detail on whether or not a course was knowledge- or competency-based.

Discussion

The DOD has established itself as a prominent and responsible organization in support of disaster response and humanitarian assistance, both domestically and internationally. Decades of evolving U.S. whole-of-government strategy building toward more accurate, timely, and effective disaster response has led to mature policy within the DOD, defining roles and responsibilities across the services and various other subordinate agencies of the department (DOD, 2012, 2016, 2017). The ever-increasing health implications of all types of disasters, including complex crises and epidemic infectious disease outbreaks, emphasize the importance of effective preparedness and response capabilities within the military health sector (Centre for Research on the Epidemiology of Disasters, 2015; Moss & Michaud, 2013; Watterson & Kamradt-Scott, 2016). This demand, though not codified in DOD doctrine as a defined set of requirements for training, is being increasingly realized by the DOD, with the onus placed on U.S. military medical personnel.

The effective delivery of disaster medicine and public health services necessitates specialized understanding of the nuanced approach to such environments. It cannot be assumed that even well-educated, trained, and field-experienced military health professionals could readily and effectively translate their capabilities to a disaster scenario, whether domestic or international. In the civilian disaster and humanitarian response communities, the importance of HA/DR-specific training for persons involved in preparedness and response has been emphasized for more than 20 years (Alexander, 2003; Hoetmer & Drabek, 1991; Ingrassia et al., 2017). The disaster medicine and public health preparedness education community in the United States emerged in earnest following the events of 11 September 2001 and the 2005/2006 hurricane season, when the aftermath of Hurricane Katrina captured the Nation's attention. The Centers for Disease Control and Prevention and the Federal Emergency Management Agency promulgated grant programs at the time for health departments, universities, and other entities to develop training and education programs related to disaster preparedness and response (Mailey, 2005).

In the ensuing years, the public health and medical communities were concerned that courses had not been developed with these competencies in mind. Furthermore, courses had not adequately addressed adult-learning principles of meeting learners where they are, connecting to learners' prior experiences, and moving them toward independent training and education (Knowles, 1977). In response to these concerns, the public health and medical communities developed the core competencies for disaster medicine and public health preparedness as depicted in the table beginning on page 30 (Walsh et al., 2012). The impetus behind this set of competencies was the intention to reach the widest network of health professionals who may contribute to the health and well-being of communities in the midst of disaster. These 11 competencies represent the most fundamental and essential attributes that responders

involved in disaster health should manifest. Various medical specialties and professional organizations have subsequently developed complementary competency sets for specific groups of professionals in disaster response, but the 11 core competencies remain the foundation for all health responders (Walsh et al., 2012).

Similarly, domestic and international government agencies, organizations and universities have developed disaster-related education and training programs with complementary sets of competencies in support of this imperative (Algaali et al., 2015; Jacquet et al., 2014). At the level of the U.S. federal government, the Federal Emergency Management Agency leads an integrated national education program for emergency management professionals, as one large-scale example. However, questions have been broadly raised about the comprehensiveness and impact of education and training design, content, and provision to date (Daily et al., 2010; Kirsch et al., 2019; Williams et al., 2008).

Through a comprehensive review, this research documented the many training and educational opportunities across the DOD for HA/DR-relevant topics. The findings demonstrate several key points, which require consideration. Most importantly, the content and availability of the courses show no discernible pattern or underlying strategy directed toward professional development of HA/DR expertise in military health professionals. There is a relative dearth of courses for a mission set that is an important part of DOD activities, and much of the available course content is duplicative while also limited to a relatively narrow range of topics. Few courses are HA/DR-specific. Most of the courses identified serve other aspects of the DOD mission, principally the care of injured soldiers in combat and force health protection considerations. There is an abundance of CBRNE content relative to all other HA/DR relevant focus areas. While CBRNE is an important concern for domestic and overseas HA/DR operations, real-world precedent has repeatedly demonstrated that responses to natural geologic and climatic disasters are far more pertinent and frequent.

Specific HA/DR competencies defined in DOD doctrine for health professionals do not exist. Therefore, in order to evaluate the HA/DR relevance of content of DOD courses, course objectives, when available, were compared to civilian disaster health competencies to determine whether they addressed a specific purpose in advancing the professionalism of disaster medicine and public health. The DOD courses, however, also do not map to existing civilian core disaster health competencies, thus leaving gaps in DOD training, that if filled, would address many topics that have been identified as critical for disaster health response (Walsh et al., 2012).

Beyond the recognized civilian core competencies, there are additional activities that the military provides in HA/DR that would require training. These include medical and public health logistics, health systems infrastructure recovery, patient stabilization and movement, standardized communications regimens, and civilian-military healthcare coordination.

Additionally, target audiences for the largest percentage of DOD HA/DR relevant trainings are individuals in leadership roles and not HA/DR implementers. There is a significant gap in DOD doctrine focused on accurately identifying, educat-

Table.
Core Competencies and Subcompetencies for Disaster Medicine and Public Health

Core competency	Subcompetency
1.0 Demonstrate personal and family preparedness for disasters and public health emergencies	**1.1** Prepare a personal/family disaster plan **1.2** Gather disaster supplies/equipment consistent with personal/family plan **1.3** Practice one's personal/family disaster plan annually **1.4** Describe methods for enhancing personal resilience, including physical and mental health and well-being, as part of disaster preparation and planning
2.0 Demonstrate knowledge of one's expected role(s) in organizational and community response plans activated during a disaster or public health emergency	**2.1** Explain one's role within the incident management hierarchy and chain of command established within one's organization/agency in a disaster or public health emergency **2.2** Prepare a personal professional disaster plan consistent with one's overall agency, organizational, and/or jurisdictional plan **2.3** Explain mechanisms for reporting actual and potential health threats through the chain of command/authority established in a disaster or public health emergency **2.4** Practice one's personal professional disaster plan in regular exercises and drills
3.0 Demonstrate situational awareness of actual/potential health hazards before, during, and after a disaster or public health emergency	**3.1** Identify general indicators and epidemiological clues that may signal the onset or exacerbation of a disaster or public health emergency **3.2** Describe measures to maintain situational awareness before, during, and after a disaster or public health emergency

Table by Norma Quintanilla.

ing, and training the full complement of requisite personnel in military medical and public health disaster response.

Finally, the current available training is mostly service specific and does not reflect a greater strategy or unity of effort. There is insufficient joint service training inclusive of varying implementing roles and adequate coverage of topics dealing with core public health and medical HA/DR competencies, as defined by established civilian norms. There is no clearly articulated DOD-wide, comprehensive view of health and medical

Table.
Core Competencies and Subcompetencies for Disaster Medicine and Public Health (continued)

Core competency	Subcompetency
4.0 Communicate effectively with others in a disaster or public health emergency	**4.1** Identify authoritative sources for information in a disaster or public health emergency **4.2** Explain principles of crisis and emergency risk communication to meet the needs of all ages and populations in a disaster or public health emergency **4.3** Identify strategies for appropriate sharing of information in a disaster or public health emergency **4.4** Identify cultural issues and challenges in the development and dissemination of risk communication in a disaster or public health emergency
5.0 Demonstrate knowledge of personal safety measures that can be implemented in a disaster or public health emergency	**5.1** Explain general health, safety, and security risks associated with disasters and public health emergencies **5.2** Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency
6.0 Demonstrate knowledge of surge capacity assets, consistent with one's role in organizational, agency, and/or community response plans	**6.1** Describe the potential impact of a mass casualty incident on access to and availability of clinical and public health resources in a disaster or public health emergency **6.2** Identify existing surge capacity assets which could be deployed in a disaster or public health emergency
7.0 Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice	**7.1** Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency **7.2** Explain the role of triage as a basis for prioritizing or rationing health care services for all ages and populations affected by a disaster or public health emergency **7.3** Discuss basic lifesaving and support principles and procedures that can be utilized at a disaster scene

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Table.
Core Competencies and Subcompetencies for Disaster Medicine and Public Health (continued)

Core competency	Subcompetency
8.0 Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies	**8.1** Discuss public health consequences frequently seen in disasters and public health emergencies **8.2** Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency **8.3** Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies **8.4** Describe common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency
9.0 Demonstrate knowledge of ethical principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency	**9.1** Discuss ethical issues likely to be encountered in disasters and public health emergencies **9.2** Describe ethical issues and challenges associated with crisis standards of care in a disaster or public health emergency **9.3** Describe ethical issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency
10.0 Demonstrate knowledge of legal principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency	**10.1** Describe legal and regulatory issues likely to be encountered in disasters and public health emergencies **10.2** Describe legal issues and challenges associated with crisis standards of care in a disaster or public health emergency **10.3** Describe legal issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency **10.4** Describe legal statutes related to health care delivery that may be activated or modified under a state or federal declaration of disaster or public health emergency

Table by Norma Quintanilla.

Table.
Core Competencies and Subcompetencies for Disaster Medicine and Public Health (continued)

Core competency	Subcompetency
11.0 Demonstrate knowledge of short- and long-term considerations for recovery of all ages, populations, and communities affected by a disaster or public health emergency	**11.1** Describe clinical considerations for the recovery of all ages and populations affected by a disaster or public health emergency **11.2** Discuss public health considerations for the recovery of all ages and populations affected by a disaster or public health emergency **11.3** Identify strategies for increasing the resilience of individuals and communities affected by a disaster or public health emergency **11.4** Discuss the importance of monitoring the mental and physical health impacts of disasters and public health emergencies on responders and their families

Table by Norma Quintanilla.

HA/DR training requirements. As a result, education and training resources are not systematically applied to force development, potentially leaving the DOD public health and medical workforce largely unprepared for the role it is increasingly likely to perform in HA/DR missions.

Limitations

Publicly accessible data on DOD courses is limited, requiring researchers with active duty DOD credentials to access the information. Some courses are coded in multiple categories with regard to content, target audience, and course modality when no predominant category was evident. Due to restrictions in accessing data regarding U.S. Navy-hosted courses specifically, the overall number of Navy courses may be underrepresented in this analysis.

Conclusions

The DOD is frequently involved in HA/DR missions and the future is likely to present unanticipated events that will challenge the military health sector in predictable and unpredictable ways. It is imperative to more proactively prepare the force to meet this established and frequent mission.

This study has identified significant gaps in DOD HA/DR-related education and training curricula, in terms of content and target audiences. It also suggests that there has not been a systematic approach to developing training and education requirements for medical and public health aspects of the HA/DR mission. Building upon work in the civilian sector over the past nearly two decades, the DOD HA/DR public health and medical community can begin to apply civilian disaster medicine and public health preparedness core competencies to their training strategy and work to develop their own complementary competency set to address the unique requirements of the military health system in disaster response.

Education and training that effectively support a ready cadre of military health professionals, clinicians and nonclinicians alike, should be brought about through a systematic, capabilities-based analysis of the ultimate HA/DR joint requirements for the U.S. military health system.

Disclaimer. The views expressed are solely those of the authors and do not reflect the official policy or position of the U.S. Public Health Service Commissioned Corps, Uniformed Services University, the Department of Defense, or the U.S. government.

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Learning Challenges Faced by Transitioning Military Service Members

Voices of Military Transition Counselors

Faith Stull
Purdue University-Fort Wayne

Ann Herd
University of Louisville

Michael Kirchner
Purdue University-Fort Wayne

Abstract

Because military lifestyle, standards, and culture are developed and fortified throughout soldiers' service, the decision to exit the military is often difficult, and challenges related to posttransition adjustment and employment are substantial. The U.S. Army's Transition Assistance Program (TAP) attempts to alleviate these challenges by teaching soldiers about the obstacles they will face as well as the corresponding strategies that can enhance the likelihood of a successful career transition. This article presents findings from a nonexperimental survey design with the administration of a survey for qualitative thematic analysis. The surveys examined 69 counselors' perspectives on the major knowledge and learning challenges soldiers face upon transitioning into the nonmilitary workforce. Analyses of the counselors' survey responses revealed three themes: (a) developing increased cultural awareness, (b) developing career awareness and job search strategies, and (c) developing new financial and personal integration strategies. Thus, the findings highlight transition counselors' perspectives that soldiers going through TAP have unique learning needs and challenges that may impact their transition experience.

Before members from any branch of service depart from the military, they are required to complete a Department of Defense (DOD)-sponsored transition program. The U.S. Army's transition program is called the Soldier for Life—

Transition Assistance Program (TAP); it was congressionally mandated in 2011 for all soldiers transitioning out of the military. The program prepares them for postmilitary life and includes assistance with their transition to civilian employment (Kamarck, 2018). During TAP, soldiers complete a program that incorporates the following:

- core curriculum—including finances, family adjustments, mentorship, and Veterans Affairs benefits;
- career-related workshops—including job search practice, resume building, social media usage, and interview practice; and
- noncompulsory workshops addressing one of three different trajectories: college, work, and entrepreneurship (Transition Offices, n.d.).

Further, throughout this process, soldiers also meet and work with military commanders, TAP managers, and counselors who specialize in veteran career transitions. Specifically, commanders ensure service members can attend the TAP curriculum; TAP managers engage and educate service members and commanders on transition services; and transition counselors provide support services, transition planning, and individualized counseling to service members (Military.com, n.d.). In short, each party performs an integral function to the program, though transition counselors in particular play a vital role in soldiers' final weeks and months of military service; they are direct witnesses to the myriad learning challenges that may be involved in a successful transition back into civilian society. Additionally, they can help provide a realistic preview of the employment challenges that could be encountered after transitioning out of the military. However, despite a growing interest among employers and learning professionals who recognize the unique needs of this population of adult learners, no research study has reported on the perceptions of transition counselors regarding the learning needs and challenges faced by transitioning service members.

Exploring transition counselors' perceptions of the learning needs and challenges faced by soldiers after leaving the military leverages the voices of this particular source of expertise in the context of other research on transition challenges and will shed additional light on service members' learning needs and strategies to enhance transition success. Accordingly, the work is organized into the following main sections: (a) a review of the literature on military-to-civilian transition challenges and adult learning processes, (b) a description of the qualitative study used to explore transition counselors' perceptions of transitioning service members' learning needs, (c) a presentation of the findings from our analyses, and (d) a discussion of implications for Army educators and transitioning service members as well as directions for future research.

Military-to-Civilian Transition Processes

The military becomes a way of life for soldiers (Cole, 2014; Halvorson, 2010; Rodriguez & Andersen, 2015). As such, transitioning out of the military is frequent-

ly cited as a trying experience for soldiers due to the numerous and varied challenges encountered along the way (Anderson & Goodman, 2014; Davis & Minnis, 2016; Harrell & Berglass, 2012; Prudential Financial, 2012; Zogas, 2017). Aspects of postmilitary life such as finding civilian employment, identifying a new sense of purpose, and family adjustment require a period of learning and adaptation for soldiers (Morin, 2011). Cultural adjustment, identity confusion, hierarchy upheaval, skill mistranslations, postmilitary unemployment and underemployment, civilian stigmas, and lack of purpose are only a few challenges that veterans experience (Anderson & Goodman, 2014; Barrera & Carter, 2017; Cole, 2014; Davis & Minnis, 2016; Harrell & Berglass, 2012; Prudential Financial, 2012; Rose et al., 2017; Stone & Stone, 2015; Zogas, 2017). Moreover, some soldiers reenlist because of transition uncertainties such as future employment or job instability as well as reduced compensation and benefits experienced upon exiting the military (Hansen & Nataraj, 2011). These challenges can discourage transitioning soldiers, impact veterans, and ultimately impede postmilitary success (Hansen & Nataraj, 2011; Harrell & Berglass, 2012; Maury et al., 2017). Because military lifestyle, standards, and culture are developed and fortified throughout soldiers' service, the decision or directive to exit the military is often problematic, and challenges related to posttransition adjustment and employment may be substantial (Halvorson, 2010).

Employment

Postmilitary employment challenges are a particular concern for transitioning service members (Harrell & Berglass, 2012; Prudential Financial, 2012). Historically, unemployment has been a common issue, but in the past few years, the rate has favorably shifted for veterans (Hiring Our Heroes, 2016; Veterans' Employment and Training Service, 2018). In October 2018, the veteran unemployment rate shrank to a near record-breaking low of 2.9%, and while these numbers are encouraging, the percentages should not suggest veteran employment problems are obsolete; unemployment rates do not consider underemployment or veterans who have stopped looking for work altogether–both factors need to be considered in the larger picture of veteran career transitions (Barrera & Carter, 2017; Kasperkevic, 2017; Veterans' Employment and Training Service, 2018). Meaningless employment, skill mismatch and mistranslation, disability stereotypes, and overqualification may still be prevalent problems for veterans transitioning into the workplace and may contribute to underemployment (Harrell & Berglass, 2012; Maury et al., 2017). One study comprised of over half a million veteran job seekers found veterans struggle to find meaningful employment, with nearly one-third experiencing underemployment (Barrera & Carter, 2017). Further, while veteran job seekers are more likely to be employed than their civilian counterparts, veter-

ans are also more likely to leave jobs earlier than the national averages (Barrera & Carter, 2017; Maury et al., 2017).

Civilian employment may at times seem daunting for veterans, with many acknowledging the disconnect they feel with their civilian employers. For instance, a study of more than 700 post-9/11 veterans revealed 41% of respondents believed hiring managers do not understand their military experience and 37% believed hiring managers actually devalued veteran experience (iCims, 2016). Perhaps as a result of veterans' perceptions of

Faith Stull is a graduate student in the Department of Organizational Leadership at Purdue University-Fort Wayne. Stull earned her bachelor's degree in psychology from Indiana University-South Bend, where she was an undergraduate research assistant and performed research on tactile metaphor perception. Presently, she conducts research on veteran career transitions with Dr. Michael Kirchner as a graduate research assistant and has presented her work at national and international conferences.

Ann Herd, PhD, SPHR, SHRM-SCP, CPC, is assistant professor of human resources and organization development at the University of Louisville. She teaches, researches, and regularly provides consulting services in the areas of military talent management, cross-cultural leadership development, executive coaching, and human resources strategic alignment. Herd won the Top-4 Faculty Favorite Award at the University of Louisville and the Metroversity Faculty of the Year for Adult Learners Award in Louisville, Kentucky. She was also awarded the Academy of Human Resource Development's Excellence in Scholarly Practice Award and the Nystrand-Offut Scholar Award for her research with employers and military service members on successful transition practices.

Michael Kirchner, PhD, is an assistant professor of organizational leadership at Purdue University-Fort Wayne, teaching undergraduate and graduate level courses in employee behavior, training methods, and human resource development. Previously, Kirchner served as the first director (2013–2016) of the Military and Veterans Resource Center at the University of Wisconsin-Milwaukee, where he oversaw a 15-person team support the campus' more than 1,500 student veterans. He is a combat veteran of the U.S. Army National Guard and was recognized as the soldier of the year during his unit's deployment to Baghdad in 2004. Kirchner holds an MS in administrative leadership (2012) and a PhD in human resource development (2016) from the University of Wisconsin-Milwaukee. He conducts research on veteran career transitions, military leader development, and student veteran support structures in higher education. Kirchner has published in numerous peer-reviewed journals including *Human Resource Development Quarterly*, *Advances in Developing Human Resources*, *Adult Learning*, *Industrial and Commercial Training*, *Journal of Veterans Studies*, and *Journal on Military Learning*, and he frequently presents at regional, national, and international conferences.

employers' perspectives on military service, nearly half (47%) of the veteran respondents either understated or omitted their service on resumes or applications (iCims, 2016).

Foundational Challenges

Civilian employer misperceptions regarding veteran physical and mental health concerns may pose a particularly substantive transition challenge (Harrell & Berglass, 2012; Kukla et al., 2015; Ohio Department of Veteran Services, n.d.; Vogt et al., 2017). Despite contrary perceptions, only about 10% of veterans are diagnosed with a substance abuse disorder—slightly higher than the civilian population, and roughly 20% suffer from a mental health disorder (National Institute on Drug Abuse, 2019; Tanielian et al., 2008). Moreover, unsupported disability stereotypes perceived of veterans compound these struggles in the civilian sector, particularly in postmilitary employment (Constantine & Morton, 2018; France, 2016; Harrell & Berglass, 2012; Ohio Department of Veteran Services, n.d.; Stone et al., 2018; Stone & Stone, 2015). Some companies have hesitated hiring veterans because of erroneous beliefs that a disproportionate number of veterans, as compared with employees without military affiliation, are diagnosed with posttraumatic stress disorder or suffer from traumatic brain injuries (Harrell & Berglass, 2012; Ohio Department of Veteran Services, n.d.). With some employers reluctant to hire veterans because of their perceived disabilities, transition concerns seem warranted. These veteran biases may negatively impact all spheres of life, especially work (Constantine & Morton, 2018; France, 2016; Harrell & Berglass, 2012; Kukla et al., 2015; Ohio Department of Veteran Services, n.d.; Vogt et al., 2017).

Learning Processes

Adult learning is an ongoing and continuous process within the military. Civilians who join the Army receive months of intense training that emphasizes the fundamentals of soldiering as well as the Army's core traditions, standards, and ethics (Military OneSource, 2018). Specialized soft skills (e.g., teamwork and problem-solving), behaviors (e.g., leadership), and values (e.g., loyalty and duty) are direct learning outcomes of the transformation from a private citizen to a soldier (Zogas, 2017). This training and shaping process continues throughout service until soldiers depart the military (Military OneSource, 2018). As such, an extensive amount of time and funds are devoted to transforming civilians into soldiers. In contrast, far fewer resources are allocated toward transitioning soldiers back to civilian life (Zogas, 2017).

From an adult-learning perspective, transitioning soldiers are likely most concerned with the learning needs related to their future well-being after leaving the

military. According to adult-learning research, adults face identity development, moral development, and personal trajectories related to their ongoing learning throughout adulthood (Day et al., 2009). Importantly, these learning challenges are similar to civilian challenges, yet the learning curve is particularly accelerated for transitioning adult service members who may have never reflected on their identities, moral development, or personal trajectories while serving in the military. Thus, critical steps in adult learning for transitioning soldiers include developing new identities, defining morals, and outlining a career path (Day et al., 2009).

Tacit and Explicit Knowledge

One of the reasons service members may struggle in their transition process is the lack of explicit and tacit knowledge regarding ways to function as a civilian. Explicit knowledge refers to information that can be transmitted from materials such as encyclopedias or handbooks and made explicit by learners through a verbal statement (Davies, 2015). Whereas explicit knowledge can be readily expressed and easier to teach, tacit knowledge is grounded in experience and tough to transfer through formal training (Hedlund et al., 1999). As Babin and Garven (2019) noted, many military activities require development of tacit knowledge that can best be acquired through actual experience. For example, whereas soldiers are taught the operational characteristics of weapons (explicit knowledge), the majority of learning occurs through actual operation (Babin & Garven, 2019). TAP counselors are thus tasked with creating opportunities for soldiers to apply their learning to real-life contexts, which can aid successful knowledge transfers and military transitions (Conger, 2013).

Transfer of Learning

For successful transfer of learning, the learner needs to be able to effectively apply what he or she learned in appropriate context (Caffarella, 2002). In other words, transfer of learning refers to the "so what" aspect of training, and it highlights why the information delivered can lead to favorable outcomes (Caffarella, 2002). For TAP counselors, transfer of training is a vital element of a soldier's transition experience, though admittedly difficult to execute. Transfer of training application requires soldiers to have knowledge of the content, acquisition of skill(s), and understanding of the context in which the knowledge and skills can be leveraged (Ottoson, 1995). Soldiers who are able to apply their learning through TAP demonstrate a series of competencies, such as resume building and interview skills, that are often necessary for all civilians as they enter the nonmilitary job market.

The military-to-civilian transition process entails a transformation in perspective for the soldier as he or she considers the decisions involved in the transition. The transition process is holistic in nature, involving decisions about where to live, whether to seek employment or educational opportunities and how to do so, how to meet family members' needs, and other considerations (Air Force Personnel Center, n.d.; Department of Defense, 2019). TAP transition counselors, who work with soldiers of all ages and backgrounds from the beginning stages to the actual transition out of the Army, have a unique and valuable perspective about the learning and transformational perspectives transitioning soldiers need. Thus, the purpose of this study was to leverage these perspectives to gain a better understanding of transitioning soldiers' learning needs and challenges.

Methodology

Design

The study used a nonexperimental, phenomenological, qualitative research design with the administration of an open-ended question survey for qualitative thematic analysis to explore the research question (Creswell & Poth, 2018). A qualitative research design approach is appropriate for investigating transition counselors' perceptions for several reasons, including the exploratory nature of studying this heretofore unstudied population and because no quantitative survey instruments or scales exist to measure perceived military-to-civilian transition challenges (Creswell & Poth, 2018). In addition, this design is more likely to elicit rich and detailed responses, which may be used as the basis for subsequent theory building and development of empirical scales that measure the construct under study (Bonds-Raacke & Raacke, 2014; Creswell & Poth, 2019). Data were obtained through a Freedom of Information Act request.

Participants

Survey participants were lead counselors, transition service managers, and other transition experts who participated in a U.S. Army Soldier For Life—Transition Assistance Program (SFL-TAP) symposium meeting in 2015. The purpose of the symposium was to gather together the interagency partners and key leaders of the SFL-TAP, including the lead counselors and transition service managers from all large U.S. Army installations around the globe, to exchange best practices and collect knowledge to better the program. Sixty-nine counselors and transition experts completed the questionnaire, representing approximately an 88% response rate.

Survey Instrument and Analyses

One week prior to the symposium, participants were administered a questionnaire designed to gather their perceptions regarding transitioning soldiers' needs and learning challenges to inform and provide inputs for topics addressed during the

symposium. To address the current study's research question about post-transition challenges, researchers asked participants to provide their responses to the following open-ended question: "Once a transitioning Soldier has begun a new job after transitioning out of the Army, what are the major challenges you see that Soldier facing once he/she has begun working in a civilian job outside the military?" Responses to this question were uploaded into NVivo and the content was analyzed to identify challenge themes. A qualitative methodology utilizing thematic analysis of the open-ended survey responses was appropriate for the study focus, which was exploratory in nature, and "characterized as inductive … [and] emerging" (Creswell & Poth, 2018, p. 22) from the data analysis in order to make sense of the study of participants' experiences and perspectives. In addition, thematic content analysis allows for the data to be organized into categories, and the frequency of the categories to be reported (Miles et al., 2013).

Results

The table (on pages 44–47) presents the results of the qualitative thematic analysis of the presymposium questionnaire, including the coding theme label, example quotes, and the number of references. A total of 118 separately identifiable references were provided by the survey participants, with some participants providing more than one content response to the focal question for this study: "What are the major challenges you see the Soldier facing once he/she has begun working in a civilian job outside the military?" We used an inductive coding strategy to identify the underlying coding categories and themes that emerged from the data. To do this, we first uploaded the open-ended survey responses into NVivo, and each person read through each response word for word and line by line. We highlighted and placed into "nodes," or coding categories, phrases and sentences that alluded to emergent themes. This coding process allowed the data to be interpreted and categorized in ways that were specific to this set of data, as befitting an exploratory phenomenological study (Miles et al., 2013). After independent analysis, the researchers met to compare coding of response references and to establish inter-researcher reliability in interpretation of the grouping of coding categories into themes (Miles et al., 2013).

As shown in the table, 11 coding categories emerged from the coding analysis of the 118 references provided by transition counselors about their perceptions of challenges experienced by transitioned soldiers: civilian "culture shock" (i.e., stress arising from interacting with foreign cultures), identity, life balance, ambiguity and structure, language, camaraderie, leadership roles, job search process, budgeting and expenses, poor job satisfaction, and physical and mental health issues (Azari et al., 2010). Based on an analysis of the reference quotes in each of the coding categories, three overall themes were found to capture the emergent patterns of respons-

Table.
NVivo Analysis Themes, Code Categories, and Transition Counselor Quotes

Themes	Coding categories	Quotes	Number of references
Developing increased cultural awareness	Civilian "culture shock"	"Adapting to change in culture" "Assimilating in the civilian work environment and culture"	27
	Ambiguity and structuring challenges	"Ambiguous rules and policies" "Adjusting to the new environment—they make their own decisions." "Differences in structure from military to civilian life" "I have heard a lot of soldiers say that the thing about being in the Army is that your days are scheduled for you. So, that seems to be a challenge for them. Scheduling their own days." "Learning new processes that may be more loosely defined from what they are used to. Changes in organizational culture that may not have the structure and discipline of a military organization."	15
	Identity learning	"Feeling of losing identity from the military" "Losing the self-discipline and self-respect they had in the military" "Having trouble identifying with civilian coworkers; lack of common experiences"	11

Table by Ann Herd.

Table.
NVivo Analysis Themes, Code Categories, and Transition Counselor Quotes (continued)

Themes	Coding categories	Quotes	Number of references
Developing increased cultural awareness	Leadership roles	"Soldiers that have been in leadership positions may find it difficult to be a subordinate and not the leader making it difficult to deal with taking direction from another individual/supervisor that may not have as much experience/ knowledge, etc. Some may have difficulty accepting they do not have the respect as a leader they had while in the military."	8
	Language	"Not using military jargon" "To leave the Army language behind"	5
	Camaraderie	"Not having the camaraderie he or she experienced in the military." "Exclusion from his support network. His/her battle buddies are the best friends that he/she will ever have. It is very possible that he/she cannot relate to, or feel comfortable with their new co-workers. Distinctly different life experiences. It can take a while to get beyond that." "The I syndrome of the civilian workforce versus the team concept creates a challenge for our soldiers because they are used to working in the team environment."	5

Table by Ann Herd.

Table.
NVivo Analysis Themes, Code Categories, and Transition Counselor Quotes (continued)

Themes	Coding categories	Quotes	Number of references
Developing career awareness and job search strategies	Civilian job satisfaction and retention	"Job satisfaction. Many soldiers take jobs due to desperation and quickly become disillusioned with their new-found place." "Getting stuck in a 'transition job' and not continuing the job search to find a career they really want." "Retaining the job as it may not be a good fit for a soldier's skill set, income is too low, and lack of a 'mentor' within the new workplace to assist a soldier with learning the new work culture."	9
	Job search process	"Not having a civilian career map." "They need to engage early, understand their cross functional skills and how to articulate them to an employer! This way the employers know what he/she is getting in the soldier and the soldier fully understands the requirements which may lower turnover for the employer."	5

Table by Ann Herd.

es: developing increased cultural awareness, developing career awareness and job search strategies, and developing new financial and personal integration strategies.

Developing Increased Cultural Awareness

The theme of developing increased cultural awareness captured the most responses regarding challenges that transitioning service members face once they are in the civilian workforce. Of the 118 references provided in the open-ended responses, "culture shock" was the most frequently mentioned challenge. Participants mentioned the culture shock that soldiers might experience in their civilian work organizations as well as in civilian society overall. Participants also mentioned the need for the transitioning soldiers to adapt to the new cultures in these civilian environments. Interestingly, some of the responses alluded to soldiers negating their

Table.
NVivo Analysis Themes, Code Categories, and Transition Counselor Quotes (continued)

Themes	Coding categories	Quotes	Number of references
Developing new financial and personal integration strategies	Budgeting and expenses	"Understanding just how expensive medical care can be and budgeting for utilities, car payment(s) and rent/mortgage." "Adjusting to the demand of time and money when it comes to the company. Soldiers are used to having the resources without the thought of cost expenditures which greatly differs from the civilian sector." "Being in a job that does not pay enough to cover the veteran's expenses, especially for those younger veterans with families." "They often have a hard time adjusting to their new financial situation. Most service members grossly underestimate how much money it takes to replace their military entitlement package."	26
	Work and non-work integration	"Adjusting to new work routines and family life." "Reintegration into civilian life and new family routines." "Acclimating to their new environment which consists of work, family, and self."	5
	Physical and mental health issues	"Having civilian supervisors understanding and being flexible to accommodate veteran medical and other residual service-related activities" "Flashbacks of unpleasant experiences, effectively dealing with anger."	2

Table by Ann Herd.

military experience (i.e., "forgetting about their military culture"), while most responses alluded to the need to adapt, understand, or assimilate into the new work culture (i.e., "adjusting to the new work environment," "adapting to the new culture," and "acclimating to the culture of the organization").

Related to the responses about forgetting or adapting to a new organizational culture (e.g., unique values, degree of hierarchy, degree of urgency, people or task orientation, functional orientation, and subcultures), another category in this cultural awareness theme pertained to identity (Society for Human Resource Management, 2019). Here also, some responses alluded to a sense of loss, or the need to throw away one's military identity in order to take on a new civilian identity (i.e., "taking off the uniform–physically and mentally," "feeling of losing identity from the military," "losing the self-discipline and self-respect they had in the military").

Specific aspects of culture, such as language, camaraderie, leadership norms, and work environment structure made up the remainder of categories pertaining to developing cultural awareness. Many of the responses in these categories also alluded to a sense of loss or the need to negate one's military experience. For example, regarding language, responses referred to "not using military jargon," "suppressing the past military experience and language," and "leaving the Army language behind." The sense of loss was also evident in the references to camaraderie (e.g., "not having the camaraderie he or she experienced in the military"; "the 'I' syndrome of the civilian workforce versus the team concept creates a challenge for our soldiers because they are used to working in the team environment"; "Exclusion from his support network. His/her battle buddies are the best friends that he/she will ever have. It is very possible that he/she cannot relate to, or feel comfortable with, his/her new coworkers. Distinctly different life experiences. It can take a while to get beyond that").

In contrast to the sense of loss associated with participants' responses relating to identity and camaraderie, the responses in the categories of leadership and structure alluded to the need to learn new ways of operating in these areas. For example, several responses in the leadership category referred to the need to learn to lead informally and as a team member without acknowledged position power that accompanies rank. Example responses include the following:

- "Adjusting to a new role (maybe used to leading) and becoming a team player."
- "Inability to interact well with civilians, especially for more senior leaders who get used to people doing what they say because of their rank. Ex-military may be a bit rough around the edges."
- "Expectation management. Soldiers are groomed for leadership roles throughout their life cycle. When they transition they may go into a role that is not a leadership position."
- "Soldiers who have been in leadership positions may find it difficult to be a subordinate and not the leader, making it difficult to deal with taking direction from another individual/supervisor who may not have as much experience/

knowledge, etc. Some may have difficulty accepting they do not have the respect as a leader they had while in the military."

In the coding category of "ambiguity and structure," responses referred to the learning needs of transitioning military members to develop skills in flexibility, dealing with ambiguity, and learning new norms. Example responses in this category included the following:

- "Learning new processes that may be more loosely defined from what they are used to. Changes in organizational culture may not have the structure and discipline of the military organization."
- "Flexibility to adjusting to a different work environment/culture."
- "Civilian companies often do not have regulatory guidance or SOPs (standard operating procedures) that soldiers often refer to for guidance, direction, etc. This may cause stress or lower confidence to do their job."
- "Recognizing and stepping up to meet the needs of their (new) employers. Sometimes it means conforming to the new organization but often it means using the training and skills they already have to get the job done."

Developing Career Awareness and Job Search Strategies

A second learning theme that emerged from participants' responses regarding challenges faced by transitioning service members pertained to developing career awareness and job search strategies. Responses in this theme included both psychological and practical career development concerns. Responses in the category of "civilian job satisfaction and retention" pertained to the challenges that may occur when developing awareness about gaps between one's career goals, competencies, and perceived fit with one's current job. Examples of responses in this category included the following:

- "Job satisfaction. Many soldiers take jobs due to desperation and quickly become disillusioned with their new-found place."
- "Getting stuck in a 'transition job' and not continuing the job search to find a career they really want."
- "Retaining the job as it may not be a good fit for soldier's skill set, income is too low, and lack of a 'mentor' within the new workplace to assist soldier with learning the new work culture."
- "Staying with that particular job as it is not a career! We need to sell the career not a new JOB! Most leave because it may have been the first thing that came along."

Regarding the category of job search processes, participants' responses pointed to practical strategies such as developing a career map, getting additional education, certification, or credentialing, updating their resumes, and understanding and communicating how their skills translate into civilian job terms. Respondents also noted the need to treat the job search process as an important commitment involving reality checking and exploration so that both the transi-

tioning service member and the potential employer have a clear picture of the employment relationship:

- "This is the reason they need to engage early, understand their cross-functional skills and how to articulate them to an employer! This way the employer knows what he/she is getting in the soldier and the soldier fully understands the requirements–which may lower turnover for the employer."
- "Setting and staying with meaningful goals. Stop thinking that the world owes them a living. Wake up to the need for school or training."

The Army has invested heavily in developing soldiers' career readiness, likely out of recognition for its need. The transition counselors we spoke with highlighted why career awareness and job search strategies are important for service members leaving the military.

Developing New Financial and Personal Integration Strategies

The final theme that emerged from participants' responses regarding their perspectives of challenges faced by service members who have transitioned out of the military pertained to developing new financial and personal integration strategies. Responses with this theme referred to "adjustment" (i.e., changing to fit into civilian life) and "acclimating" (i.e., becoming accustomed to civilian life) in both work and nonwork spheres, and interacting primarily with people who may have no knowledge of one's military experiences (i.e., "acclimating to the new civilian schedule and lifestyle"; "reintegration into civilian life, new family routines"; and "readjusting to family and friends who never served in the military"). A small but significant number of responses also referred to the need to learn strategies for dealing with mental health issues that may have been precipitated or exacerbated by military service. On a practical level, the coding category "budgeting and expenses" accounted for 22% of responses (see table, pages 44–47) and alluded to practical concerns regarding budgeting; living within one's means with a likely lower civilian salary; obtaining affordable insurance, medical care, and housing; and generally adjusting to a more difficult financial situation. In this regard, respondents frequently mentioned having the perception that transitioning service members had unrealistic expectations about how much they would earn in their new civilian employment situation and how far their earnings would stretch (i.e., "They often have a hard time adjusting to their new financial situation. Most service members grossly underestimate how much money it takes to replace their military entitlement package").

Discussion

Results from the present study suggest that transition counselors report that transitioning service members experience learning challenges regarding both tacit and explic-

it knowledge as well as processes related to transformational learning and development that occur throughout adult life (Mezirow, 1991). These findings also revealed consistencies with previous research on veteran career transitions. Developing increased cultural competence highlighted one of the commonly cited transition issues experienced by veterans (Simmelink, 2004). Whether referencing military culture's influence or need for transitioning service members to learn to function as civilians, the transition counselors echoed prior research (Davis & Minnis, 2016; Ghosh & Fouad, 2016; Prudential Financial, 2012; Zogas, 2017). Similarly, the findings revealed civilian and career-related knowledge requirements may be lacking for transitioning service members.

As Loughran (2014) highlighted, veterans often struggle to secure meaningful employment that matches their skills and interests. Based on the study's findings, the lack of career readiness, financial planning, and integration strategies may contribute to the loss of sense of purpose for veterans who have completed their transition out of the military. Although TAP offers extensive career-readiness training, the frequency of responses regarding soldiers' career transition challenges suggests transitioning service members may struggle to transfer their learning outside of the classroom. The findings also suggest the Army's lifestyle is essentially embedded in soldiers and can make it difficult to transition from and merge with new norms and identities (i.e., "Having trouble identifying with civilian coworkers; lack of common experiences"; "Exclusion from his support network. His/her battle buddies are the best friends that he/she will ever have. It is very possible that he/she cannot relate to, or feel comfortable with their new co-workers"; and "Acclimating to their new environment which consists of work, family, and self"). The perspectives of transition counselors on the challenges faced by soldiers leaving the Army provide direction for improving current practices and guiding additional research.

Implications

Career transition is a process of moving from one stage to another in one's career journey (Johnston et al., 2010). The study highlights learning concerns regularly encountered by TAP counselors relating to this journey, and it leads to several implications for stakeholders invested in military transitions. Transition counselors identified a sense of identity, language and norms, command structure, camaraderie, and sense of purpose amongst the top challenges faced by Army service members leaving the military. These challenges relate to broad cultural differences between the military and nonmilitary organizations and represent tacit knowledge areas that may be developed by transformational learning strategies involving perspective taking, storytelling, and other reflective practices that allow the learner to gain insights about how their experiences relate to new situations (Merriam & Brockett, 2007; Mezirow, 1991).

Developing Increased Cultural Awareness

Although TAP has a career exploration component, there may be opportunities to further integrate cultural awareness into the program—an area of serious concern cited by transition counselors in this study. Training related to cultural adjustments, hierarchy transfiguration, identity confusion, and civilian biases are significant concerns plaguing soldiers returning to the civilian sector (Anderson & Goodman, 2014; Cole, 2014; Davis & Minnis, 2016). These concerns appear warranted because cultural awareness (e.g., shared values, group norms, and person-organization fit) is an important factor of civilian life, particularly employment (Cable & Judge, 1996; Groysberg et al., 2018). As veterans, scholars, and transition counselors have all identified cultural awareness as a barrier to successful transitions, introducing a more in-depth cultural component in TAP may improve the transition process and better prepare soldiers for civilian work and family life.

Developing Career Awareness and Job Search Strategies

TAP transition counselors in this study referenced career-related challenges for transitioning soldiers including difficulty securing employment, poor job satisfaction, and low retention. While TAP offers instruction on obtaining postmilitary employment, such as military occupational specialty crosswalk demonstrations, the curriculum may benefit from further examination. These courses are completed over a condensed time frame and cover large quantities of information—an approach that is not conducive to memory retention (Meacham, 2017). As such, transitioning service members may benefit from more adequately distributed courses. Longer program lengths may allow for shorter, more manageable courses and lessen the overwhelming amount of content currently provided in one sitting. Further, additional direction on challenges that commonly occur after postmilitary job attainment (e.g., overqualification/underemployment, high turnover rates for veterans, and employer-veteran employee disconnect) may be beneficial to program participants. As such, the study's findings suggest a broader and extended career development course for soldiers.

Developing New Financial and Personal Integration Strategies

The transition counselors identified money management, finances, and new routines as a third area of concern for transitioning service members. Although service member pay may be perceived as low for the number of hours worked and corresponding dangers of the job, the entitlement package, including housing, meals, and insurance, are at times underrecognized. The added expenses, which veterans previously did not have to consider, consume significant portions of civilian paychecks. As such, current TAP training that educates transitioning soldiers on how to manage their money and new environment appears appropriate. In fact, considering the high number of references, TAP may even consider expanding on current programming related to the management of money and self.

Future Research

Research regarding military-to-civilian-life transition challenges is expanding, but little work has concentrated on the TAP counselors who contribute toward lessening service members' postmilitary struggles (Anderson & Goodman, 2014; Davis & Minnis, 2016; Harrell & Berglass, 2012; Prudential Financial, 2012; Zogas, 2017). Studies that explore relationships between TAP counselors' background and effectiveness can contribute toward identifying attributes of counselors well-positioned to be successful. Findings from these studies may explain the various perspectives of TAP's necessity and effectiveness. Finally, the military itself is periodically perceived as having its own culture that is instilled in its members. Comparative research related to veterans' understanding of military culture's influence in shaping their identities may assist in recognizing service members likely to be considered "high risk" during their transition.

Conclusion

This study explored Army transition counselors' perspectives of the learning challenges faced by transitioning soldiers. Perhaps no other stakeholder plays as important a role in veterans' transitions than counselors, and as such, transition counselors offer unique insight into the experiences of soldiers leaving the military. Based on the study findings, addressing learning needs pertaining to developing increased cultural awareness, developing career awareness and job search strategies, and developing new financial and personal integration strategies may prove beneficial in enhancing service members' transition outcomes. The Army's substantial investment in soldier transitions has positively impacted thousands of veterans. With continued exploration and program improvement, career transitions may become a less substantial stressor for veterans and instead become a positive experience as part of the civilian-military-veteran trajectory.

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An Evidence-Based Approach to Unit-Level Teaching and Learning

Col. Thomas Williams, Retired
Quinnipiac University

Abstract

Every day, someone in the operational Army conducts a professional development workshop, delivers a mandatory training class, or gives a lecture on some new aspect of doctrine. Unfortunately, these classes do not always equate to soldiers learning because many of their instructors lack the knowledge of what it means to have their students learn. The Army can do better, and this article offers a set of evidence-based principles in theoretical and practical form that will make an immediate difference to the quality of its operational instructional design.

Teaching is part of military life, and all who serve are teachers. From the formal lessons covering individual skills, collective tasks, and professional development to the informal day-to-day coaching and mentoring, the Army acts to help its teams grow. In fact, the Army defines itself as a learning organization (Senge, 1990; U.S. Department of the Army [DA], 2017).

Despite this claim, the military treats teaching and learning as the domain of a select few. Those who teach in the Army's school system enjoy instructor training and faculty development programs that qualify them for their jobs, but most teachers, the ones who work with soldiers in the operational domain, know little of the science of teaching and learning and must fend for themselves. In the main, their instincts are good, but most often they mimic what they have seen, no matter its efficacy.

In many ways the military educational system does better than its civilian counterparts. Many college and university professors enter the field with little to no training in the scholarship of teaching and learning (Fertig, 2012). They, like the teachers in the operational domain, face the unspoken expectation that anyone with content knowledge can teach.

However, the notion that anyone with content knowledge can teach should be disabused. Key lessons learned after several decades of command assignments and teaching positions both in the Army and at civilian institutions have led to this argument. Army leaders outside the school system should be offered a set of con-

cepts and concrete examples of what kind of teaching method works and why it works so they can improve learning in their units.

The Key to Everything

My civilian employer developed a First Year Seminar Program for all incoming freshmen in 2015. The design team spent hundreds of hours developing the curriculum with the right pedagogical approach and a faculty development plan to help with the rollout. Unfortunately, this extensive work delivered by a pool of talented and highly qualified instructors was not enough. The first year of the program ended with poor results on internal end-of-course surveys asking students about the learning outcomes.

What we discovered after several after action reviews was that some of our best instructors *were* the problem. The key to successful learning is realizing that effective teachers must do more than present engaging lessons. Teachers must also know whether their students are learning what they are expected to learn. It seems like a self-evident concept, but many of the Army's professional teachers confused content delivery (instruction) with learning. They are not the same.

This unsuccessful method forced us to look more closely at what it means "to learn" and how to orient our teachers to a learning-centric model of instruction. Looking at the definition of learning may seem pedantic, but our team discovered that even seasoned classroom veterans use the term rather casually, and they often see it differently. For instance, they would talk about student learning as various *outputs*—lessons delivered, papers written, and tests passed—rather than how much material their students actually remembered and used. Students are adept at keeping things in working memory long enough to finish most standard assessments, but exceptional papers and aced tests are not always indicative that a student has learned for the long term (Soderstrom & Bjork, 2015; Willingham, 2009).

The Army's concept of learning is "the acquisition of new knowledge or skill by experience, instruction, or study, or a combination of all three" (DA, 2017, p. 9). It is a process that "involves internalizing and synthesizing information and knowledge and manifesting behaviors as competencies" (DA, 2017, p. 9). This is a good definition, but there is more to it. For instance, in his book *Make it Stick*, Brown (2014) said that learning is "acquiring knowledge and skills and having them readily avail-

Col. Thomas Williams retired from the U.S. Army Reserve in 2017. His last military assignment was faculty instructor in the Department of Distance Education at the U.S. Army War College in Carlisle, Pennsylvania. He now teaches part-time at Quinnipiac University in Hamden, Connecticut.

able from memory so you can make sense of future problems and opportunities" (p. 2). Also, Chris Hakala, director of the Center for Excellence in Teaching, Learning, and Scholarship at Springfield College in Massachusetts, emphasized that we must be able to apply our knowledge *in changing contexts* before we can say that we have learned the material (Hakala, personal communication, June 13, 2019).

Hakala's words about changing contexts are important. Daniel Willingham (2009) tells us people fixate on how we frame our problems. These are called surface structures. The steps to solving problems are called deep structures. If students learn how to calculate the amount of varnish needed for a tabletop restoration, they might not see that they also know how to calculate the amount of grass needed to reseed a lawn (p. 97).

What my civilian colleagues and I concluded in our after action reviews was that despite having highly rated teachers conduct engaging and active seminars, students were not always learning beyond surface structures. Given years of excellent teacher evaluations, it was a troubling realization, and it demanded action. The search for answers pointed us to the psychological sciences and a set of principles that, when properly applied, generated almost immediate results on our various qualitative and quantitative assessment instruments.

Reading this research also exposed some common educational beliefs as myths, most notably the myth of retained information resulting from tailoring classroom instruction to accommodate different learning styles (Pashler et al., 2019). For some, this exposure is hard to accept as the concept of tailoring instruction to accommodate different learning styles is widely held to be considered a successful learning approach, but there is no scientific evidence to support this belief. In other words, if an instructor designs a lesson that offers a combination of visuals, lecture or discussion, and hands-on work and thinks it means his or her students will learn the material better, then he or she is mistaken. There is no question students *prefer* different instructional styles based on what they perceive has worked best (Willingham, 2019). Using a balanced instructional approach is an effective way to *present* material, but *learning* demands more.

Evidence-Based, High-Impact Practices

Goal orientation and mindset are important aspects of learning, but learning starts with approaches that we found to have the most direct and immediate impact on a program of instruction, course, seminar, or workshop. These include

- connecting a student's prior knowledge to the new material,
- getting students to practice,
- having students retrieve knowledge, and
- providing feedback.

As I considered the question of how to explain these concepts within an article, it occurred to me that I had the answer in the same way the Army trains its soldiers

on individual tasks. The military does an exceptional job of teaching technical skills. An instructor sees right away if a trainee can disassemble, assemble, and function check an M4 rifle. After a time, a trainee can repeat the task in changing and varied contexts like when he or she is tired, distracted, or abused by inclement weather. It becomes a habit of mind, and in our success, we can see the same roots of what contributes most to successful learning.

Connecting

We enhance learning when we can connect what we are doing to something we already know (Brown, 2014). Not ironically, I am connecting these principles to what soldiers learn in basic training. Connections help a person move information from working memory to long-term memory. Furthermore, the information will be easier to retrieve later if he or she can connect what he or she is learning to multiple points of existing knowledge (multiple analogies).

The better rifle instructors will find ways to connect students' actions to things they know. Sports analogies are popular in the military because many recruits played a sport as children or young adults. Assembling and disassembling a rifle, for example, is a lot like playing football, the instructor might say. If the parts (the players) are not put together in the right sequence, the play falls apart.

Keep in mind that students often arrive with prior knowledge of a topic that is misguided or simply wrong. Instructors may find themselves having to correct students before they teach anything new, a prospect made trickier because students are not always aware that what they know is wrong (Lucariello et al., 2016).

Practice

After providing the basics, instructors ask trainees to practice because that is how learning happens (Lucariello et al., 2016). Soldiers follow the steps hundreds of times if necessary. Instructors prompt trainees to recall their knowledge by asking them to tell instructors what they are doing and why. The trainees must be able to repeat for the instructors, on demand, the function checks or the immediate actions to take upon the event of a rifle malfunction.

Instructors do not limit trainees' experience to a clean, classroom environment. Instructors insist the trainees experience assembly and disassembly of their weapons in changing conditions like after firing on the range or during a tactical field problem. Instructors do this to ensure that the trainees can apply their process knowledge in multiple contexts. Instructors vary conditions so when trainees are confronted with new challenges, they can apply their knowledge effectively.

Retrieval

Retrieval is as simple as it sounds. It is recalling information to strengthen memory and make learners less likely to forget it (Agarwal et al., 2013). Most commonly, this is done through testing. A test that is used to assess students and hold them accountable for remembering the information makes them more interested in acing the test than it does in learning the material. Many students will admit to keeping information in working memory only long enough to pass the test. They will admit that days later, never mind a year later, they do not remember much of what was taught. A low-stakes test is much better for learning assessment. Using low-stakes tests to help students see their areas of weakness is a learning strategy. If students come to understand what they do not know, then they can review the material appropriately.

Feedback

Feedback is more than grading, scoring, or assigning a "go" or "no-go." It is the act of coaching. When instructors watch someone perform a task and they correct a mistake, then they are providing feedback. Feedback is most effective when it is immediate, clear, and explanatory (Lucariello et al., 2016). This does not mean instructors need to jump in and correct every mistake. If the learning outcome involves letting trainees struggle with a problem in order to let them work out the solution themselves, then offering feedback too soon can be a mistake.

There is a difference between desirable difficulty and frustration (Bjork & Bjork, 2015). A trainee with even a little experience (having been taught the basics and having practiced a bit) can often solve problems on their own. Instructors might need to frequently interrupt beginners because letting them struggle does not help the learning. The question of what is appropriate depends on an instructor's goal and a student's ability.

Mindset

Not to be overlooked in learning is how students see the source of their success. Many believe that their accomplishments come from having natural talent while others see effort as the primary driver, and according to Dweck (2016), this distinction is a difference maker. In *Mindset: The New Psychology of Success*, Dweck (2016) calls the emphasis on talent a "fixed mindset" and the reliance on effort a "growth mindset."

According to Dweck, students who see talent as the primary driver work hard to protect that reputation. It often manifests in their behavior. Students with fixed mindsets are less inclined to ask questions because they have convinced themselves that smart people should always know the answer and questions might

expose their ignorance. Fixed mindset students might also shy away from difficult tasks because they fear that trying and failing would cause people to doubt their innate talent. There are also clues in students' language. An instructor might hear someone with a fixed mindset say, "I'll never be able to do that!" or "She's a technical person … I'm not." As we often express the same sentiments about our own abilities ("I am not a math person."), we do not always recognize these warning signs when they are present.

Some scholars think the concept of mindset is a bit of a stretch (Sisk et al., 2017). They see it as overplayed and caution educators not to see it as a panacea. In my experience, however, Dweck's findings are valid and to the student who "made it this far" on "how smart they are," the fear is quite real. What is worse, we teachers are, despite good intentions, guilty of contributing to the problem. Whenever we see good work and praise students' talent or tell them how smart they are, we are contributing to the mythology.

Learning is too complex to think that any one variable (like mindset) will "solve" our problem, but Dweck is right when she says that talent without effort is a recipe for stagnation and eventual failure. To make learning more effective, teachers need to encourage Dweck's growth mindset. We need to convince students that their abilities today are not *who* they are and that with hard work, their abilities can improve.

It is not hard to make this happen. Some teachers share personal stories to make a point. When discussing new and difficult material, they discuss their own failures and how through effort and hard work they eventually prevailed. We all have plenty of examples, from math class to disassembling our weapons for the first time, where effort mattered more than being "a math person" or "mechanically inclined."

We can also change our language. When students do well, I am now careful to ask about how much time they spent studying or practicing, or how many times they made mistakes along the way. I praise their effort, which is often hidden from their peers who only see the final result. Think back to our basic rifle marksmanship effort; there is no such thing as natural, only range time.

Performance Goals

Mindset also matters when soldiers are defining their goals. Students focus on one of two types of goal: mastery or performance. To achieve mastery is to develop competence, whereas to perform is to demonstrate ability (Lucariello et al., 2016). At first blush, these may seem quite similar, but to master something is to actually learn it. A student with a performance goal is more apt to focus on a test score or a grade, the metrics that provide public recognition. Deresiewicz (2014) calls attention to the "game of school," namely seeking high marks without really learning the

material. To seek mastery means accepting failure as a path to learning and taking on more difficult challenges for the sake of learning.

Anyone who has been around soldiers or students for even an hour recognizes that there are those who are playing the "game" and those who are looking for mastery. The former will avoid giving answers or offering ideas because they are afraid of giving the wrong answer and appearing foolish. In my experience, soldiers playing the "game" are much more numerous than soldiers looking for mastery.

As people are ultra-social creatures and desire more than anything to fit in with a group, they are prone to look askance on those who stand out (Haidt, 2006). The consequences of this ultra-sociality is that students often delight in environments that cater to the fixed mindset, environments that do not ask them to retrieve knowledge, practice in front of their peers, or welcome feedback.

Adjusting a Typical Lesson Plan

This is an article on learning, not instruction. Granted, providing content is fundamental to teaching and learning, though how an instructor delivers material is less important than one might think. There are many content delivery methods, from lectures to problem-based learning. It is beneficial to use any of them. What matters more is how instructors get students to retrieve information and use what they are taught.

For the sake of this article, let us assume that a "lesson plan" is a prototypical set of slides from a PowerPoint presentation. Put them aside for now. Instead, start by thinking about the learning outcomes. Instructors may have these already, or they may have to develop some themselves. Outcomes need not be fancy or full of educational jargon. They simply need to define clearly what that student will say when she gets home and says, "Today was good—I learned how to … ." In doing this, instructors shift the focus away from what *they* can deliver to thinking about what *their students* are going to walk away having learned.

A helpful tool for this effort is Bloom's Taxonomy (Armstrong, n.d.). Bloom's Taxonomy is a set of three hierarchical models used to categorize learning objectives into levels of complexity and specificity. It provides a framework that positions different words in progressively harder categories, or levels, of learning. At the lower end are the words "knowledge," "comprehension," and "application" (in that order), and at the higher end are "analysis," "synthesis," and "evaluation" (Anderson, n.d.). Each level contains a set of useful words that indicate what a student should be capable of doing at the particular level. Gaining knowledge, for example, calls for defining, duplicating, or stating, while evaluation demands designing, constructing, or investigating. As with any framework, Bloom's model is not a substitute for judgment, though at the lower end of the scale, students might find

that defining a specific term is as difficult a challenge as designing or constructing something tangible (Didau, 2011).

Clear learning outcomes allow instructors to adjust their instructional plan and to align content with stated outcomes. When using a slide deck, for example, it could mean winnowing the number of slides down significantly. There is no formula for how many to keep or what to keep, but less is often more. Instructors will need to use their judgment on what slides to keep, and it is not easy. Consider the typical Army learning outcome—familiarization. It does not necessarily mean "cover everything at half an inch deep." It can mean covering two key concepts at a yard deep. If this is what instructors decide, that they want their students to learn, then they may keep the slides that focus on these two key concepts and abandon the others.

Next, consider how students, by the time instructors are done, retrieve from memory and apply key concepts to solve problems in various and changing contexts. That is, consider how they will learn. Just like rifle instruction, successful recall will require making connections to what students already know, having them practice, testing them to help them retrieve what they know, and providing feedback.

The good news is that a simple conversation, when done well, facilitates all of these components. It allows students to work out their ideas on the material in real time, and it often forces them to engage with differing opinions as others offer different views and interpretations. Just be careful: a discussion is not questions and answers *with the instructor*. It needs to be an honest engagement *among students*. The trick is to get it going. If, for example, a slide in our fictional deck noted the reintroduction of C2 into the lexicon, I would remove the generic bullets and substitute questions, such as "Did the Army bring back command and control (C2) in their latest doctrine, or did they just acknowledge that we never stopped using it?" (If this is too esoteric, any rank- or experience-appropriate question will do.)

Instructors should be clear about their intent, namely that they are seeking conversation. (Here is a tip: When an instructor asks a question designed to facilitate discussion, he or she should sit down. Doing so signals to the group that he or she is no longer the center of attention, and when he or she stands back up, it is an instant signal that once again, he or she is.) Try to avoid using questions that lead to a "gotcha" game of twenty questions, for example, "What did the Army add back into the doctrine?" Specifically, avoid questions that seek direct and narrow answers. The idea is to open lines of inquiry and invite conversation, not to encourage students to parrot back to the instructor what they think he or she wants to hear.

A caution is in order at this point. First, be careful to keep the discussion focused on the learning outcomes. People remember (they commit to long-term memory from working memory) what they think about (Willingham, 2009). If a class discussion digresses too far afield, it may be lively and interesting, but students may walk away thinking about (learning) something other than what the instructor intended.

When an instructor thinks that students have discussed the topic enough, he or she can bring the focus back to the doctrine and what the Army is now saying about command and control. It does not require a new slide. Talk about it. The brain can only handle so much at once, and if an instructor presents a student with a slide to read and then reads its content to the student (or has someone else read to the student), the student may not be able to process both reading the slide and having it read. It is called cognitive overload, and it will cause students' eyes to glaze over. Along the same lines, it is good practice to use few words, or even better, to use a simple picture on the slides. I prefer the picture because of something called "dual-coding," the idea that adding nonverbal prompts enhances cognition (Smith, 2016).

Keep in mind that by reducing slides and adding pictures, instructors will need to know the material well. They need not be an expert on the subject, but the slides will no longer serve as a crutch. Be ready to jump in with feedback that corrects erroneous statements or wild assertions.

Another technique that works to get conversations started is to ask students to share or write down what they already know about a particular subject. Perhaps there is a slide on operational art, which is a term that has been around for a while. Ask students to describe their experience with it or with design methodology. There is usually quite a mixed reaction among senior noncommissioned officers and officers.

If students stay silent, do not despair, but remember why they are reticent. They are likely trying not to look foolish in front of their leaders, peers, or subordinates. They are revealing something of their mindset and goal choice, and this mindset inhibits learning. Have them write down their ideas first, as writing these ideas out gives them time to think. Students need not read these statements to their instructors or to each other; the mere act of writing matters most. It primes the pump, so to speak, and is a good practice (a good conversation starter) to have them pair up and share with each other first.

Lastly, and throughout instructor delivery, run checks on learning. A good retrieval practice is to ask students to write down the most significant things they learned in the previous hour, or if an instructor is starting a second hour (or day), the most significant item learned in the last hour (or day).

Considerations for Future Discussion

This is an article for those who are not instructors in the Army's school system, though its lessons may benefit existing faculty as well. This is for the leaders who work outside of the institutional domain and do not have the advantage of a formal faculty development program or instructor certification. The unspoken expectation that anyone with content knowledge can teach effectively is harming the ability to

develop tomorrow's leaders because, despite extensive educational efforts, it is likely those leaders are learning less than imagined.

What should be considered for future discussion is an Army-wide Center for Teaching and Learning that provides not only resources for instructors on important evidence-based practices but that also sends experts to the field to help non-instructors who teach professional development workshops, mandatory training, unit-run lessons in decision-making, etc., become better at their craft. *U.S. Army Learning Concept for Training and Education, 2020–2040* alludes to this, but it does not offer any concrete steps (DA, 2017).

As an interim measure, I offer this story of personal trial with its key lessons in the hopes that it offers Army leaders a set of concepts and concrete examples of what works in student learning and why it works so students can improve *learning* in their units. The simple techniques outlined in this article work. Start small and do not give up. Instructors too will get feedback as they go. They should keep a record (a form of retrieval) of what they did in class and what they might do the next time. They should work to improve their own knowledge and use this knowledge to solve future problems in multiple contexts. In a word: learn.

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Instructional Strategies for the Future

Brenda Bannan, PhD
Nada Dabbagh, PhD
J. J. Walcutt, PhD

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As education and training opportunities become ever more available—on demand, anywhere, anytime, and across our lifespans—individuals increasingly experience bursts and waves of disconnected, transitory, and episodic learning. Hence, it's our challenge, as learning science practitioners, to help learners filter data noise, focus on relevant information, and meaningfully connect new learning to past experiences. Towards that end, this chapter provides a framework that illustrates a shift in thinking about instructional strategies, refocusing these principles to better support the future learning ecosystem and foster connections across learners' lived experiences. Building on traditional instructional strategies shown to be effective in formal learning contexts, we propose new approaches that cut across individuals' learning episodes, potential careers, and lifespans.

Background

For decades, the design of instructional strategies (and learning systems, in general) has been largely treated as a micro-level, reductionistic, and linear activity—focused on analyzing particular learning outcomes, aligning them with suggested instructional strategies, and then delivering instruction in straightforward ways to elicit desired responses. However, today, learning occurs in a multidimensional frame, blending formal, nonformal, and informal experiences that transcend time, space, medium, and format. The complexity of our lives and diversity of available technologies warrant a shift in learning theory, away from standalone learning episodes that push information in a singular manner and towards a multipoint, multimodal view where learning crosses the boundaries of time, context, delivery methods, and devices.

Although networked technologies have already made it possible to support ubiquitous lifelong learning, our teaching methods and instructional strategies haven't caught up with these new learning affordances. We're still designing at the module, course, or program-level, ignoring broader learning pathways, and discounting the additive peripheral events learners encounter throughout their lives. We need to modernize our conceptualization of "instructional strategies," and expand these principles to support a more open, flexible, and personalized learning ecosystem. We need to create continuous and meaningful lifelong learning and find ways to incorporate elements from diverse and informal contexts into it.

Fostering more cohesive, coherent learning will likely involve designing some manner of "macro-level instructional arcs" that span a mosaic of individual and collaborative learning experiences—meaningfully intersecting different events across a lifetime. It will also require us to make better use of multimodal communication tools to help individuals curate information and generate knowledge across experiences. This position reflects the connectivist view of learning, which perceives knowledge as a network, influenced and aided by socialization and technology (Siemens, 2006). From this standpoint, knowledge isn't only contained within an individual or information artifact; it's also distributed externally through networks of internet technologies and communities, accessible via social-communication tools. Learning takes place in these autonomous, diverse, open, interactive, collaborative, and global knowledge systems. Hence, recognizing relevant information patterns, constructing new connections, and nurturing and maintaining connections become critical skills for achievement. Individual learning opportunities can be (and have been) designed with this paradigm in mind; the full solution, however, requires even more (Del Moral-Pérez et al., 2013; Siemens, 2006, 2008).

Limits of Conventional Instructional Design

Traditionally, an instructional designer begins with some given set of criteria such as the lesson's purpose and subject matter, learners' general characteristics, and likely some logistical constraints. From these, designers extrapolate the type (e.g., psychomotor, cognitive, affective) and level of learning outcomes (e.g., remembering and understanding, applying and understanding), objectives of the associated assessments (e.g., formative, summative), and other delivery factors (e.g., course schedule, perhaps). They break the goals into objectives, the objectives into tasks, and then select some set of instructional interventions to help learners master each component. They continue working in this linear fashion—breaking down the plans into smaller and smaller parts, and carefully considering the content, delivery, and learner activities for each. This is known as "backwards design" (Wiggins & McTighe, 1998).

The traditional approach to designing instruction generally assumes a given target—a particular individual or cohort—as well as a specific setting and general set of conditions. It focuses on determining the appropriate configuration of instructional interventions in insular and finite curricular units, such as a course or training program. However, as we envision learning across lifetimes, this model no longer suffices. In the future, we need instructional design that encompasses diverse learning experiences, media, populations, and contexts—many of which will fall outside the instructional designer's purview. In other words, we need an updated approach that

- Facilitates learning as a gestalt, derived from the collective sum of all learning events and experiences;
- Recognizes learning outcomes are increasingly self-directed and stitched across different contexts, networks, and communities; and
- Actively incorporates technology to enable learning—not only as an instructional delivery mechanism but also as the "glue" to connect learning events to one another.

Consequently, we need a multidimensional model of instructional design that integrates traditional micro-level interventions as well as macro-level principles, that considers not only instructor interventions but also learners' own agency, and that actively connects experiences across the crisscrossing landscape of learning.

Strategies and Tactics; Instruction and Learning

Instructional design terminology is used in a hodgepodge of ways (Akdeniz, 2016). We won't attempt to unkink it, but it's useful to highlight several terms. First, consider "instructional strategies" (also frequently called "teaching strategies"). This is the most common way to refer to the instructional interventions used by teachers, trainers, and instructional designers. In more careful discussions, this concept is typically divided into "instructional organizers," at a more global level, and "instructional tactics" at a more granular one (Jonassen et al., 1990). Exactly where the lines are drawn between these levels is a bit fuzzy—and largely irrelevant to our discussion. What's more applicable is the general idea that there are instructional design distinctions at different conceptual and granular levels.

The second important distinction comes in comparing *instructional strategies* to *learning strategies*. Where instructional strategies are devised and applied by learning experts to some planned block of instruction, learning strategies are personal methods used to improve one's own knowledge, skills, and experiences across the range of formal and informal learning. In theory, learning strategies and instructional strategies mirror each other. For example, an instructor might design a lecture, provide some illustrative examples, and give feedback. Meanwhile, a learner may work to memorize terms, mentally compare-and-contrast new ideas to prior knowledge, and reflect on performance.

In many ways, the distinction between instructional strategies and learning strategies is a question of *control*. As discussed in the previous chapter, transactional control (or the extent to which the learner makes decisions versus some external authority, such as the instructor or software) is an important factor. As one might expect, control of learning can be handled in different ways: internally by the learner, externally by some structure or authority, or insufficiently, without effective support from either internal or external sources.

Also, as Jon Dron's transitional control theory emphasizes, some form of negotiated control, in the middle of internal–external control continuum, is best (Dron, 2007a, 2007b). Hence, the notable concept here is not only the contrast of instructional strategies to learning strategies, but also the potential for their integration—that is, blending learner-directed and authority-directed strategies together.

One final distinction for the future learning ecosystem is belied by its name. Why is it an *ecosystem*; why not just a regular, old *system*? An ecosystem, by definition, is comprised of interconnected parts, with the behaviors of many individual agents affecting one another as well as the environment's overall holistic pattern. It's a dynamic system, in the engineering sense, involving many dispersed, interdependent, interacting elements, and, notably, it's not guided by some top-down, centralized control. Some portions may be structured and designed, while others act or interact with their own agency. Consequently, for our learning ecosystem, how we understand instructional structure and learning is an essential consideration.

The Expanding Context of Future Learning

To advance instructional theory, it's necessary to expand its design towards a modern, longitudinal view of learning, one that facilitates connectivist principles and seeks to amplify outcomes throughout an array of teaching and learning situations, across multiple contexts, diverse learning objectives, and disparate learning modalities. This section outlines eight principles likely to shape the purpose and application of instructional strategies in this complex future context.

1. Connect diverse learning experiences. Explicit in the "ecosystem" concept are the notions of *diversity* and *interconnectivity*. Most relevant, here, are the diversity of learning experiences and their complex interconnectivity with one other. As humans, all of our experiences naturally affect one another. The question is not simply "how to ensure learning episodes are somehow additive," but rather how to intentionally build meaningful and effective connections among learning episodes that advance overall learning goals. Even within a relatively constrained setting, like a single course, instructors and instructional designers need to broadly consider multiple and varied learning modes and, importantly, how to help connect learners' experiences across them. As a simple example, consider a semester-long

class that incorporates face-to-face seminars, online courseware, an additional smartphone app used to remediate some students, and informal resources, such as videos or blogs that students find online. Courses that blended these sorts of resources are already common. Part of the challenge, however, is gracefully navigating the available set of learning-resource options and *intentionally* integrating them so that they not only coexist but also correlate.

This mosaic of learning components, of course, is often more complex than this example describes. In reality, learning experiences span multiple formal and informal events, timespans, and contexts, contributing to an ever-evolving trajectory of reconfigured and connected experiences, through the lifespan, across multiple contexts, and intersecting with varying developmental dimensions (such as psychomotor, social, emotional, and cognitive learning). An ongoing challenge for learning professionals, then, will be to help learners integrate these myriad experiences in thoughtful ways.

2. Connect to, and enable outside connections from, learning opportunities beyond the planned instruction. The preceding example described the integration of learning resources around a central unifying core (a single course). This is good, but we need to think even broader. In addition to the planned activities designed in or around a particular formal learning event, learning professionals need to consider the impact of learning activities that take place outside of their direct control or even full awareness, such as independent self-directed learning, informal experiences, and other external formal activities (such as courses taught by other teachers on different subjects). Too often, teachers and trainers focus solely on the activities taking place within their purview, that is, within their formal learning episode. This may cause those learning professionals to inadvertently overlook individuals' prior experiences, concurrent learning activities, or the future learning events they might encounter. Linking to prior or external learning isn't new guidance, but the growing availability of well-designed informal learning resources combined with interconnected technologies and interoperable data make these linkages more achievable and more necessary.

For the future, it's important to consider instructional strategies that tie-in to these other learning activities *and* also to create "hooks" in the formal learning materials we create, so that learners or other learning professionals can better link our work into their own learning environments.

3. Connect learning across levels of abstraction. When a child learns to read, we first start by teaching sounds and letters; once these are learned, we teach words, sentences, punctuation, grammar rules, comprehension, and eventually one day maybe professional investigative journalism or creative screenwriting. The point is that different capabilities emerge from the integration of competencies at a given level of analysis. The "levels of analysis" concept describes the level of abstraction at which something is affected or evaluated, with the implication that the elements at each level relate to one another. Computational neuroscience David Marr has gone so far as to say:

> "Almost never can a complex system of any kind be understood as a simple extrapolation from the properties of its elementary components…If one hopes to achieve a full understanding of a system…then one must be prepared to contemplate different levels of description that are linked, at least in principle, into a cohesive whole, even if linking the levels in complete detail is impractical." (Marr, 1982, p. 19–20)

In the learning domain, considering learning at different abstraction levels helps us plan the immediate activities (level interventions), broader but still bounded experiences (macro-level interventions), and expansive lifelong learning arcs (meta-level interventions). As indicated in the earlier "Strategies and Tactics; Instruction and Learning" section, precisely distinguishing where one level ends and another begins is less important than the general concept. That concept is that we need to consider is how to better combine the micro- and macro-level approaches to designing instruction (the typical instructional tactics and strategies experienced designers already use) along with new macro-level strategies to create a multidimensional, multilayered model that helps learners aggregate and make sense of learning experiences across devices, modalities, episodes, and learning dimensions. The idea is to support learners beyond the context of a given course or training event, to help them integrate these into a more holistic course of study. For instance, a university mentor might help a graduate student understand how the different courses, job-study projects, and internships coalesce—creating integrated meaning beyond their individual parts. How do we provide similar support, but more broadly and outside of a narrow academic context? How do we help people extrapolate meaning across otherwise unconnected activities and integrate experiences in ways that expand those activities' individual values? And how do we do this across longitudinal periods—not only during a semester or academic program, but at a lifelong learning scale?

4. Consider the "in between" learning spaces. This multilayered model of learning might appear to simply connect pinpoints of learning across time, space, and modality—like a pointillist painting that reveals an image from separate daubs of paint. But the concept goes beyond that. Unlike paint blotches, which are individually contained and otherwise inert, each learning experience is dynamic and complex. Further, the "space" between learning experiences—that is, the new value derived from merging or reconceptualizing learning "frames" in response to their integration or comparison—differs from the largely additive emergent qualities of a Georges Seurat masterpiece. In other words, the challenge for learning professionals is this: How do we capitalize on the abundance and diversity of learning experiences in creative and deeply meaningful ways? Can we do more, for instance, than simply reminding students of prior knowledge or asking working professionals to consider how new concepts fit into their jobs? Can we build something more than the sum of the learning parts?

Some "levels of analysis" hierarchies include a middle or *meso* level to refer to the connections between the other levels. We're modifying this concept slightly and using the term *meso-level* to refer specifically to those interventions aimed not merely at linking across experiences but also producing unique added value from the correlations. This involves more than just linking across time horizons or subject matters, although those are both relevant. It also involves aggregating concepts at a given level so that new and integrated capabilities emerge.

5. Help learners filter overload. As discussed in Chapter 4, cognitive overload poses a serious problem for individuals, who can readily become overwhelmed by the sheer amount and velocity of information. Learners need new supports that help them filter out "noise" and meaningfully integrate the relevant "signals." If not addressed, we run the risk of increasing information acquisition to the detriment of deep comprehension and robust knowledge construction. The multilayer, interconnected model we've discussed in this section emphasizes this complexity. The challenge for learning professionals is to help learners navigate through information overload and to develop the internal cognitive, social, and emotional capabilities needed to self-regulate against it. Some strategies to support this have been discussed in prior chapters, including social and emotional competencies (Chapter 4), self-regulated learning skills (Chapter 15), and social learning supports (Chapter 14). Mentoring learners in these areas can help, as can specifically teaching techniques for managing overload including connectivist skills, curation, and metacognition.

6. Help learners use connectivist learning strategies. Connectivism emphasizes the importance of distributed knowledge and capability. For example, rather than knowing how to bake banana bread, one simply needs to know where to find recipes online, how to select the best video tutorials, and which friend to phone when a little extra assistance is needed. Navigating through these technical and social networks is a primary skill—a critical learning strategy—associated with connectivism. Although the multilayered, interconnected model discussed so far has emphasized *instructional* strategies (i.e., those things learning professionals do to help support learning), it's also important to consider *learning* strategies. By definition, these must come from the learners, themselves; however, learning professionals can enhance and support learners' abilities. Instructors and good instructional design can help learners develop their connectivist learning skills and associated self-regulation strategies to help them navigate complex social, cultural, and informational networks.

7. Help learners curate resources and knowledge. Information and communication technologies offer new ways of discovering, organizing, and later retrieving information. Often learning instances and other information can be digitally captured, processed, aggregated, and stored for retrieval across time, contexts, and devices. This notion relates to connectivism, and it highlights the importance of developing related learning strategies (e.g., how to organize and retrieve curated

information). Over the last decade, personal learning environments have become popular; these online systems help learners and their teachers manage learning resources. Looking ahead, learning professionals will need additional tools and mentorship strategies to continue to support such curation activities across increasingly "noisy" and diverse settings.

8. Blend instructor- and learner-controlled strategies. This section has outlined guidance for instructional strategies as well as possible interventions to help develop and activate learners' own internal learning strategies. This final item highlights that both internal expert-directed learning controls as well as learner-directed self-regulatory interventions are critical. Over time, individuals should develop the desire and ability to exert more independent control. However, many learners need help cultivating their self-directed learning abilities, hence a negotiated mix of instructor-controlled and learning-controlled approaches is needed. The role of the instructor in these new multidimensional contexts, therefore, needs to expand and grow in flexibility, shifting to encompass the roles of activator, facilitator, coach, mentor, and advisor (Hattie, 2009; Marr, 1982).

Strategies for Meaningful Future Learning

The prior section outlined eight principles for the application of instructional strategies in the future learning ecosystem context; however, it didn't describe the strategies, themselves. Hundreds of instructional strategies and, likely, thousands of corresponding tactics have been tried and tested. Rather than provide a litany of these, we've identified five generalizable principles of meaningful learning well-suited for instructional strategies in this context.

These methods will help create **active**, **constructive**, **cooperative**, **authentic**, and **intentional** learning interventions.

Meaningful learning is grounded in and driven by epistemological orientations and theoretical foundations that are primarily constructivist, social constructivist, and connectivist in nature. In constructivism, learning is characterized as "constructing" or creating meaning from experience such that knowledge comes from our interpretations of our experiences in an environment and emerges in contexts where it's relevant (Ertmer & Newby, 2013). In other words, the mind filters inputs from an environment or experience to produce its own unique reality or understanding. Therein lies the intentional (goal-directed, regulatory), active (manipulative, observant), constructive (articulative, reflective), and authentic (complex, contextualized) principles of meaningful learning. In social constructivism and connectivism, learning becomes a process of collection, reflection, connection, and publication (Del Moral-Pérez et al., 2013; Ertmer & Newby, 2013). Therein lies the cooperative (collaborative, conversational) principles of meaningful learning.

Strategies in Application: An EMT Example

Consider an example of a young woman who, upon high school graduation, enrolls in an Emergency Medical Technician (EMT) training program. The program incorporates multiple courses delivered via didactic instruction and labs, followed by integrative in-the-field clinical experiences. Throughout the program, her learning is supplemented by various digital tools including e-books, practice simulations, and a micro-learning study app.

At a micro-level, the instructional strategy of **scaffolding** can be used to create a supportive and responsive environment to help the novice EMT progress towards becoming a paramedic. Scaffolding involves assessing what learners can do, helping them reflect on what they know, identifying needs and goals, providing individualized assistance towards these goals, and offering opportunities for learners to internalize and generalize their learning. In this example, the instructors might engage the EMT trainee in intentional, goal-directed, and regulatory behaviors to prompt a connection between what she learned in the EMT training course and how she can extend the physical and cognitive dimensions of EMT training into future paramedic training.

The instructional strategies of **modeling and explaining** can also be used to help transition learners in their learning trajectories. In modeling and explaining, instructors demonstrate a process while also sharing insights beyond the obvious, such as telling learners about why a task is performed in a certain way. In the case of the EMT trainee, her instructors—whether human or AI coaches—can model and explain what, how, and why paramedics perform certain procedures while also demonstrating the social and emotional aspects involved in these tasks. Modeling and explaining can take place in authentic contexts, which helps present the concepts at the appropriate level of complexity and portray the interplay of dimensions associated with them. For instance, for the EMT example, this could be done in a simulated or real ambulatory run. The EMT trainee, in this case, might be asked to articulate, reflect, and engage in constructive thinking through observation of expert performance. She might also be challenged to extend her knowledge beyond her comfort zone, such as to consider the next phase of her professional and personal development as a future paramedic.

In addressing more macro-level instructional interventions, we can expand traditional strategies to incorporate organizational, elaborative, exploratory, metacognitive, collaborative, and problem-solving elements across the various dimensions of learning. These macro-level strategies can be connected or "threaded" to incorporate higher-level objectives, such as encompassing a defined career path or advancing a current professional situation. Each individual's journey through a lifetime of formal and informal experiences is somewhat unique and may incorporate multiple contexts and educational events. Hence mapping and organizing a learner's cohesive transition, with the important consideration of "the spaces in-between" (the meso-level of

design), as well as the integration of instructional experiences and major life events, become important areas of focus for future learning design.

Upon completion of paramedic training, **coaching and mentoring** can be used as crossover instructional strategies to further scaffold learners towards the next phase or experience in their lifelong learning trajectory. Coaching and mentoring are related. They involve observing learner performance and offering assistance to bring it closer to expert performance (coaching), as well as acting as role model, advising, and supporting learners in attaining goals and in overcoming barriers and challenges (mentoring). As learners set goals for real-life situations, coaches and mentors provide support through dialogue, with social negotiation, and by engaging learners in actively seeking information, researching the issues, and finding solutions to meaningful and authentic problems (Dabbagh et al., 2019).

In the EMT example, this means engaging the EMT trainee, who (let's say) is now a paramedic, in **authentic** (complex, contextualized) and **cooperative** (collaborative, conversational) activities to help her think about how to extend her physical, cognitive, emotional, and social knowledge of being a paramedic further, maybe encouraging her to consider the perspectives of a physician's assistant. This might involve shadowing a physician's assistant at a hospital, observing what they do, and actively considering how her current and emerging medical knowledge and skills as well as her social and emotional competencies (such as bedside manner) might apply. This type of experience allows learners to work in authentic settings, and it engages them in collaborative and conversational interactions with their coach or mentor as well as with their peers. All this enables them to share ideas, listen to each other's perspectives, and co-construct knowledge. As illustrated in this example, the instructional strategies of scaffolding, modeling and explaining, and coaching and mentoring can be used as crossover instructional strategies to create meaningful connections that help learners transition across experiences, set lifelong learning goals, and achieve those goals across the lifespan.

Macro-level instructional strategies can inform larger and larger units of instructional and professional development, and adding meta-level structures also helps support a lifetime of growth across multiple careers, experiences, and interests. This supports continual expansion of knowledge, multiple learning itineraries based on learners' competencies and interests, and multiple tools for manipulating resources. This includes not only formal learning experiences but also informal and life experiences, all intimately connected.

Viewing learning across the lifespan as a networked and connected ecosystem of experiences opens new opportunities for instructional strategies. Each individual may have a different learning trajectory and mosaic of experiences threaded together across education and training, major career events, multiple careers, and other lifetime activities. Like a puzzle that's never quite finished, learners progressively add to their learning landscapes while also benefiting from the integration of

STRATEGIES FOR MEANINGFUL LEARNING

Instructional strategies such as scaffolding, modeling and explaining, and coaching and mentoring can support meaningful learning within and across different levels (Dabbagh et al., 2019):

COOPERATIVE (collaborative, conversational)

- Enable collaborative and conversational interactions between learners and instructors, mentors, tutors, or instructional systems
- Encourage learners to engage in collaborative and conversational activities through sharing ideas, listening to each other's perspectives, and co-constructing knowledge
- Help learners work together in communities to accomplish the task at hand

AUTHENTIC (complex, contextualized)

- Use authentic processes and contextualized examples to present concepts and domain knowledge at appropriate levels of complexity
- Engage learners in authentic activities that are complex and contextualized
- Encourage learners to actively seek information, research issues, and find solutions to meaningful and authentic problems

CONSTRUCTIVE (articulative, reflective)

- Enable active and constructive learning by challenging learners to perform beyond their comfort zones
- Engage learners in active and constructive thinking, for instance, by representing their understanding in different ways, using different thought processes, and challenging them to develop and defend their own mental models
- Create opportunities for learners to think constructively while considering experts' performance, articulation, and reflective practice

INTENTIONAL (goal-directed, regulatory)

- Encourage goal-directed and regulatory behavior by keeping learners' intentions at the forefront of the learning task
- Engage learners in reflective and intentional behavior, encouraging them to analyze their actions, compare them to others, and, ultimately, to form expert knowledge and skills
- Help learners set achievable goals and manage the pursuit of these goals through a process of exploration and inquiry

ACTIVE (manipulative, observant)

- Engage learners in active learning through observing the consequences and results of their actions and by assessing and evaluating their knowledge
- Enable learners to consciously think about their observations and actions thereby constructing new knowledge and restructuring their understandings accordingly

the elements within them. The technological advances described throughout this volume have created the capacity to provide learners with connected and cohesive learning across their lifespans.

Summary

Instructional strategies can incorporate interventions, such as scaffolding, modeling and explaining, and coaching and mentoring, to provide the glue that meaningfully supports connected and cohesive experiences across a learner's lifetime. Thinking about the continuum of future learning, we need to consider these strategies at multiple levels—not only within a particular instructional event or course of study, but across learners' longitudinal trajectories. Accordingly, a significant challenge for the future is the differentiated application of instructional interventions across conceptual areas, learners' developmental phases, content modalities, and levels of abstraction—while also considering the impact of composite learning experiences.

Such learning experiences can be implemented using experiential, collaborative, and personalized instructional models that target cognitive, psychomotor, emotional, and social skills across distributed contexts including individual and collaborative activities; these, of course, will also be facilitated by a variety of delivery formats, modalities, and technologies. Thus, we must consider a new model for how to organize and recommend instructional strategies within this non-linear, lifelong, personalized learning continuum. How do we ensure such strategies are coherent to learners and that they improve upon (rather than add noise to) the potentially overloaded learning environment?

How do we help teachers, trainers, mentors, and automated systems, as well as learners themselves, use appropriate strategies in this crowded future learning environment? Many other learning science questions persist. However, it's clear that to realize the full promise of the future learning ecosystem, we need to apply considered strategies across it—strategies that combine micro-and macro-level instructional activities with macro-level considerations, that identify and support "the spaces in-between" learning episodes at the meso-level, and that help learners develop and apply their own learning strategies to navigate the complexity of the world around us.

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The Importance of Teaching Followership in Professional Military Education

Col. Paul Berg
Army University

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Danny Miller (1992) coined the phrase "Icarus paradox" to describe how having a competitive advantage and superiority status can lead to an unforeseen failure of organizations and individuals that do not maintain situational awareness. Miller (1992) argues that people and organizations get caught in a vicious circle whereby "their victories and strengths so often seduce them into the excesses that cause their downfall" (p. 24).

Miller describes how Icarus, according to Greek mythology, flew with a great pair of artificial wings made from wax and feathers by his father. Ignoring his father's warning, he tried to fly close to the sun. As he neared the sun, his wings melted, causing him to fall to his death. The story of Icarus demonstrates that power and an overinflated sense of self-importance can blind people and organizations to their weaknesses and ultimately lead to their downfall. Could a loyal subordinate have convinced Icarus to heed his father's warning and fly at a safe level?

Subordinates must try to prevent their leaders from making wrong or unethical decisions that will cause them to fail. Effective and courageous followers will use professional dissent to challenge their leaders' poor decisions. By understanding dynamic followership, military organizations can treat followership like a discipline and improve leader-follower culture.

Army Senior Leader Issues

Army Doctrine Publication (ADP) 6-22, *Army Leadership*, describes a leadership and followership framework by saying that, "Effective organizations depend on

the competence of respectful leaders and loyal followers. … Learning to be a good leader also needs to be associated with learning to be a good follower—learning loyalty, subordination, respect for superiors, and even when and how to lodge candid disagreement" (U.S. Department of the Army [DA], 2012, p. 2). This statement emphasizes that everyone serves on a team as either a leader or a subordinate, and effective teams develop mutual trust and respect, recognize existing talents, and willingly contribute for the common good of the organization. Unfortunately, several senior-level Army officers who were on the fast-track to the top organizational jobs have violated the Army's and the Nation's trust. They failed in their careers by engaging in unethical or immoral behavior such as gross abuse of power, bigamy, extreme toxic leadership, and criminal acts.

These officers serve as fitting examples of the Icarus paradox: their successes as military officers led them to believe they were above reproach—a weakness that led to their downfall. The challenge for our Army is correcting our moral compass and eliminating this type of behavior to maintain the trust of the American people.

Army leadership cannot allow moral decrepitude to impair the profession. Senior leaders are exploring new methods and strategies to help all Army leaders recognize vulnerabilities and prevent missteps in order to maintain public respect and trust (DA, 2013, pp. 1-2). The U.S. Army achieves credibility and legitimacy as a profession through trust from our society. Army Doctrine Reference Publication (ADRP) 1, *The Army Profession*, states, "Professions earn and maintain their clients' trust through effective and ethical application of expertise on behalf of the society they serve. Society determines whether the profession has earned the status of a noble calling and the autonomy that goes along with this status" (DA, 2013, pp. 1-2). ADRP 1 identifies five characteristics that leaders must uphold to maintain public trust: trust, military expertise, honorable service, esprit de corps, and stewardship of the profession (pp. 1-5). When senior officers fail in one of these areas, society's trust in our Army erodes.

Another larger institutional challenge is apparent. If subordinates knew about the unethical decisions made by their leaders in recent events, why did they not counsel and guide their bosses to prevent them from failing? The Army must incorporate followership classes into professional military education courses to devel-

Col. Paul Berg, U.S. Army, is the director of academic affairs of Army University, Fort Leavenworth, Kansas. He holds a BBA and an MBA from the University of North Texas and an MS and a PhD in adult and continuing education at Kansas State University. Berg recently served as the commander of 1st Battalion, 223rd Aviation Regiment at Fort Rucker, Alabama. His previous assignments include four combat deployments to Iraq and Afghanistan with the 1st Cavalry Division and the 101st Airborne Division.

op effective subordinates who are better prepared to prevent senior officers from making unethical decisions. Education accompanied by a culture shift will lead to informed, effective followership.

Characteristics of Military Service Education

In 1867, Gen. William Tecumseh Sherman, who assisted in founding the forerunner of the Command and General Staff College, described subordinate leadership by saying, "we have good corporals, some good sergeants, some good lieutenants and captains, and those are far more important than good generals" (Hinkelman, 2006). Lt. Col. Sharon M. Latour and Lt. Col. Vicki J. Rast (2004) describe soldiers as simultaneously both leaders and followers from the day they enter military service, throughout their careers, and into retirement. Latour and Rast (2004) state that all Department of Defense educational curricula focus on teaching and developing leaders, but few of the military schools spend time developing effective follower cultures and skills. They claim the dominant military organizational culture encourages subordinates to adopt a follow me behavior through discipline and lawful orders. The research findings of Latour and Rast show that most teaching philosophies devalue followership in its contribution to warfighting. Latour and Rast (2004) conclude that the military services expend most of their resources educating a small fraction of their service members, communicating their value to the military institution, and establishing career paths for a select few while ignoring the vast majority of subordinates in the military service. In the Department of the Army Fiscal Year 2015, Lieutenant Colonel Centralized Selection List-Command and Key Billet, published 30 April 2014, only 13 percent of lieutenant colonels were selected for battalion commands, which meant the other 87 percent would remain in subordinate staff positions. This promotion rate supports Latour and Rast's thesis that the majority of military leadership educational classes are useful to only a small percentage of the force.

Moreover, the Army educational philosophy in entry-level officer and enlisted courses implies that by teaching soldiers to follow orders completely, they also learn how to become effective leaders. However, some challenges arise when some of those soldiers and junior officers become senior enlisted and field grade officers, and simply following orders is no longer acceptable behavior. Further followership development must be implemented into the organizational culture to develop effective followers at those levels.

Followership Importance in Relation to Ethics

James McGregor Burns (1979) wrote that "leadership is one of the most observed and least understood phenomena on earth" (p. 2). Leadership and follower-

ship are complex fields of study. They are dependent on each other. There cannot be leaders without followers, and followers need a leader. If leaders fail because of unethical decisions, the subordinate staff officers should also be held responsible because they have a duty to be effective followers.

One of the most recognized authors on the topic of followership, Robert Earl Kelley, defines followership not as a subset of leadership but as an equal component to leadership. In his book *The Power of Followership*, Kelley (1992) introduces a new followership model to describe different followership styles in relation to leadership models. According to Kelley, "the primary traits that produced the most effective followers in an organization were critical thinking and active participation" (p. 92). Kelley proposes that an exemplary follower is an independent critical thinker who has learned to be a critical thinker through education and development. The exemplary follower is motivated, has intellect, is self-reliant, and is dedicated to achieving the mission of the organization. Critical thinking is learned behavior that must be accompanied with adequate reflection time. With this concept, the follower, or subordinate, must, as Kelley says, truly "not just follow orders without critical analysis and must participate with the superior for the good of the institution" (p. 92).

Ira Chaleff, author of *The Courageous Follower* (2009), is another key followership researcher. He uses the military to provide examples in his book of virtue ethics—examples such as German guards in concentration camps during World War II, and Lt. Calley and his platoon during the My Lai incident in Vietnam—to explain different levels of the leader-follower relationship.

Chaleff's followership model emphasizes that selective rule breaking is a key attribute of a courageous follower: "It is not ethical to break rules for simple convenience or personal gain, but neither is it ethical to comply with or enforce rules if they impede the accomplishment of the organization's purpose, the organization's values, or basic human decency" (p. 47). Followers must have the courage to oppose the boss when events require dissent for the good of the organization. Chaleff (2004) also emphasizes that organizations that have courageous followers will have no need for whistle blowers because the followers do their duty to prevent leaders from making unethical decisions. One of the key statements Chaleff (2004) makes is that "proximity and courage are the critical variables in the prevention of the abuse of power" (p. xi).

Dissent in Followership

The challenge for followers is approaching their superiors, looking them in the eye, and telling them that they disagree with a decision. The Army has some superiors who do not appreciate, acknowledge, or want to have anyone challenge their authority. They perceive questions on their decision making as sharpshooting

instead of analyzed dissent. However, morality and ethics require good followers to provide opinions, recommendations, and judgments to their superiors, using critical and effective reasoning (Chaleff, 2004).

Lt. Col. Mark Cantrell (U.S. Marine Corps) (1998) wrote an article about military dissent in which he says followers should make sure they have their facts straight, and they are certain the boss is wrong before they call attention to the issue and bring the correct information and guidance to the boss for his or her own good and future perspective. Military forces work under a distinct chain of command for daily operations, and the military culture promotes working with one's boss before going over the boss' head in that chain. Loyal dissent is expected to follow an ethical guideline to maintain an effective chain of command. Going around one's command is almost always discouraged. This can result in few courageous followers.

Military Education Opportunities

There could be many opportunities to teach ethics and followership at all levels of professional military education. Entry-level officer basic courses include leadership classes, but almost no formal academic classes discuss followership concepts. There are few lessons on how to provide negative feedback to one's boss when the boss might be wrong.

Due to many recent senior military leader investigations, ethics is becoming mandatory training, especially for field grade officers. In 2013, ethics classes were introduced into the Command and General Staff College curriculum by directive from the Department of the Army. This provides an excellent opportunity to address unethical decisions by senior leaders and the actions their staffs could have taken to prevent them. In the next few years, ethics training will also become prevalent in junior officer courses. For now, however, followership still remains an unpopular topic within Army academic circles.

Organizational Culture as Organizational Life

Many references to bureaucracy relate to how the employee becomes a part of the organization (or machine), and the employee's life is the job. The Army does this to soldiers by providing for every facet of life: medical care, housing, social events, and the work place. A bureaucratic culture in any organization can stifle creativity, honesty, and constructive criticism.

There are always asymmetric power relations in an army, a multinational corporation, or a family business that result in the vast majority working for the interest

of a select few (Morgan, 2006). The Army has a history of military prodigies who were chosen by current generals to rule in the future because of their connections, family lineages, and perceived entitlement of authority. The theory of the "iron law of oligarchy" is reflected in the military institution just as it is in political organizations and labor unions, where an elite group runs the organization while the premise of equal opportunity and merit is merely window dressing for the organizational culture and society (Morgan, 2006, p. 296). Perhaps this sense of elitism allows some senior officers to justify unethical conduct and encourages a lack of intervention on the part of their followers—any pretense of ethical behavior and morality is merely window dressing.

Conclusion: Effective and Courageous Followers

If Icarus' assistant knew the wings would melt from the heat of the sun, why did he not try to dissuade Icarus from attempting to fly toward it? If a leader is heading down a wrong or unethical path, then the subordinate follower's duty is to step in and prevent that action. Effective and courageous followers will use professional dissent to challenge their leaders' decisions. By understanding dynamic followership, military organizations can treat followership like a discipline and improve leader-follower cultures. Through education, soldiers and officers can learn how to be effective and courageous followers as well as good leaders, potentially preventing future unethical decisions.

In a cultural change, many retired Army officers are now addressing senior-leader ethical issues as problems of needing followership dissent. In his presentation at the International Leadership Association annual conference in Denver on 25 October 2012, Dr. George Reed described leadership through an ethical lens, where "well-meaning followers face conflicting loyalties as they balance their own sense of right and wrong with desires of leaders and the best interest of the organizations they ultimately serve" (p. 21). This statement suggests responsible subordinates must find a method to candidly voice their concerns to their bosses for the good of the organization.

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Career Courses' Cognitive Assessment Battery Administered at the Captains Career Course

From the Editor

The Army Talent Management Task Force (ATMTF) was created to develop ways to better manage soldier talent and ensure that the right person is selected for the right position at the right time. As part of the ATMTF's Officer Career Assessment Structure (OCAS), the Career Courses' Cognitive Assessment Battery (C3AB) was designed to measure skills and characteristics needed for students of the Captains Career Course (CCC) to succeed in future positions. C3AB development began in 2015 by Army University and the former Center for Army Leadership (now the Center for Army Profession and Leadership). The battery was further developed by Army University and the Army Research Institute in 2019-2020. In its current form, C3AB scores are only intended to help students gain insight regarding their personal strengths and areas for self-development related to successful performance in Army careers. C3AB scores will not be used for promotion decisions and will not be listed in the officers' personnel files. However, because the Army is making dramatic changes to its talent management systems, CCC students are urged to consider their scores and determine what actions they may want to take to improve in areas with lower-than-desired scores from a self-development perspective.

Eventually, after extensive testing, the C3AB may be used to predict future performance-related outcomes of field grade officers. For example, the C3AB may be used as one measure among others to distinguish between average and superior performers. The C3AB may be used to predict which captains are most competitive for the Command and General Staff Officer Course (CGSOC), who would have longer careers in the Army, and who would perform most effectively in Army advanced educational opportunities.

C3AB is currently undergoing testing with two types of assessments that include cognitive skills and noncognitive tendencies, as listed in the table (on page 89).

In the table, there are five cognitive skill areas and eight noncognitive tendencies. Cognitive skills involve assessments with right/wrong answers that identify how individuals think about a problem. The noncognitive tendency measures identify influencing factors that students already possess that either positively or

Table.
Areas of the Career Courses' Cognitive Assessment Battery

Cognitive areas	Noncognitive tendencies areas
➢ Inferential reasoning ➢ Quantitative analysis ➢ Pattern recognition ➢ Integrative complex thinking ➢ Creative thinking	➢ Achievement orientation ➢ Self-efficacy ➢ Peer leadership ➢ Tolerance for ambiguity ➢ Cognitive flexibility ➢ Stress tolerance ➢ Written communication ➢ Oral communication

Table by Dr. Lisa Babin, Institutional Research and Assessment Division (IRAD) of Directorate of Academic Affairs, Army University.

negatively affect how they think about problems. Although there are no right or wrong answers on the noncognitive questions, higher scores in these areas have been positively correlated with higher performance of Army captains and majors.

The Army University, on behalf of the Combined Arms Center (CAC), is implementing the C3AB for CCC students and providing self-development feedback to all students who volunteer to participate in the research effort. The C3AB is free to all students and is owned and managed by the U.S. Army. Students at Fort Benning, Fort Lee, Fort Leonard Wood, Fort Rucker, and Fort Sill have already participated in the research. Fort Benning, Fort Huachuca, and Fort Gordon will have the opportunity to participate by the summer of 2020.

As the Army moves into the information age for soldier talent management, the ability to develop better assessments and processes to identify soldier strengths and weaknesses will be essential to future Army readiness. When news of research to improve Army assessments gets out, we hope that many volunteers join the fight and help improve the way the Army manages talent.

Upcoming Conferences of Note

June 4–7, 2020: Adult Education Research Conference

University of British Columbia · Vancouver, Canada

https://newprairiepress.org/aerc/

The Adult Education Research Conference (AERC) is an annual North American conference that provides a forum for adult education researchers to share their experiences and the results of their studies with students, other researchers, and practitioners from around the world.

June 9–12, 2020: EduData Summit

Delegates Dining Room at the United Nations · New York

https://edudatasummit.com/

EduData Summit (EDS) is a premier forum for data-driven educators. Learn and share best practices regarding big data, predictive analytics, learning analytics, and education.

June 30–July 1, 2020: Army University Learning Symposium

Fort Leavenworth, Kansas

https://armyuniversity.edu/News/Assets/Learning_Symposium_Call_for_Proposals.pdf

This symposium aims to inform academic and industry partners on the U.S. Army's learning concepts for 2035 while further developing partnerships between academia and industry leaders in veteran employment. The two-day event will consist of presentations and roundtable/panel discussions followed by an audience question and answer period.

August 4–6, 2020: Distance Teaching and Learning Conference

Monona Terrace Convention Center · Madison, Wisconsin

https://dtlconference.wisc.edu/

This conference emphasizes evidence-based practice, educational innovation, and practical applications of theories and research findings in the field of distance education and online learning.

August 6–9, 2020: American Psychological Association Convention

Walter E. Washington Convention Center · Washington, D.C.

https://convention.apa.org/

The American Psychological Association (APA) convention is the world's largest gathering of psychologists, psychology students, and other mental and behavioral health professionals. This is an opportunity to discuss education and behavioral sciences specifically tailored to the military population with a wide variety of experts.

August 17–19, 2020: iFest

Hilton Alexandria Mark Center · Alexandria, Virginia

https://www.trainingsystems.org/events/2020/8/17/01d0

The Department of Defense Advanced Distributed Learning (ADL) Initiative, in collaboration with the National Training and Simulation Association, provides unique opportunities for military, government, industry, and academia professionals to share the latest in distributed learning innovations.

October 11–15, 2020: Association for Continuing Higher Education (ACHE) Conference

Hilton Double Tree · New Orleans, Louisiana

https://www.acheinc.org/page-18649

The Association for Continuing Higher Education (ACHE) is a dynamic network of diverse professionals who are dedicated to promoting excellence in continuing higher education and to sharing their expertise and experience with one another. This year's conference theme is "2020 Vision: Leadership, Growth, and Sustainability for Continuing Higher Education."

October 12–14, 2020: Association of the United States Army (AUSA) Annual Meeting

Walter E. Washington Convention Center · Washington, D.C.

https://meetings.ausa.org/annual/

The Association of the United States Army (AUSA) Annual Meeting and Exposition is the largest landpower exposition and professional development forum in North America. The annual meeting is designed to deliver the Army's message by highlighting the capabilities of Army organizations and presenting a wide range of industry products and services. AUSA accomplishes this task throughout the entire event by providing informative and relevant presentations on the state of the Army, panel discussions and seminars on pertinent military and national security subjects, and a variety of valuable networking events available to all that attend.

October 27–30, 2020: American Association for Adult and Continuing Education Conference (AAACE)

Reno, Nevada

https://www.aaace.org/page/2020Reno

This is the annual conference of one of the nation's largest organizations for adult and continuing education. The American Association for Adult and Continuing Education (AAACE) is the publisher of three leading adult education journals: *Adult Education Quarterly*, *Adult Learning*, and the *Journal of Transformative Education*. The theme for this year's conference is "Adult Education for Human Rights, Economic Empowerment, and Environmental Sustainability."

November 4–6, 2020: Council for Adult and Experiential Learning (CAEL) Conference

Hilton Riverside · New Orleans, Louisiana

https://www.cael.org/conference

The annual conference brings together over 500 participants to learn, network, and work together to make lifelong learning accessible to adults around the world. Attendees include college faculty and administrators, human resources professionals, workforce developers, and representatives from labor and government.

November 8–11, 2020: Institute for Credentialing Excellence (ICE) Exchange

The Fontainebleau · Miami, Florida

https://www.credentialingexcellence.org/page/call-for-abstract-proposals

The Institute for Credentialing Excellence (ICE) Exchange conference is for the credentialing community. The name ICE Exchange reflects what is valued most by annual conference attendees: the exchange of industry trends and best practice through live education and networking.

November 11–15, 2020: Professional and Organizational Development (POD) Network Annual Conference

Hyatt Regency · Seattle, Washington

https://podnetwork.org/event/2019-pod-network-conference-our-45th/

The Professional and Organizational Development (POD) Network conference focuses on the community of scholars and practitioners that advance the scholarship of teaching and learning through faculty development.

November 30–December 4, 2020: Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)

Orange County Convention Center · Orlando, Florida

https://www.showsbee.com/fairs/48121-I-ITSEC-2020.html

The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) is the world's largest modeling, simulation, training, and education conference allowing participation in education paper presentations, and networking among government, industry, and academia peers and subject-matter experts.

2020
UNITED STATES ARMY LEARNING SYMPOSIUM

June 30–July 1, 2020 · Fort Leavenworth, Kansas

Academic and Vocational Trends and Enabling Technologies

The United States Army Combined Arms Center's Army University invites academia, industry, joint professional military educators, and other interested individuals to the 2020 United States Army Learning Symposium, Tuesday, June 30 and Wednesday, July 1, 2020, at Fort Leavenworth, Kansas.

DAY ONE KEYNOTE SPEAKER

Mr. Charles (Fred) Drummond

Deputy Assistant Secretary of Defense (Force Education and Training), Office of the Assistant Secretary of Defense for Readiness

DAY TWO KEYNOTE SPEAKER

Dr. E. Casey Wardynski

Assistant Secretary of the Army for Manpower & Reserve Affairs, Office of the Assistant, Secretary of the Army for Manpower & Reserve Affairs, Office of the Secretary of the Army

Lewis and Clark Center

100 Stimson Avenue · Fort Leavenworth, Kansas 66027

https://usacac.army.mil/node/2505

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Author Submission Guidelines

Manuscripts should contain between 3,500 to 5,000 words in the body text. Submissions should be in Microsoft Word, double-spaced in Courier New, 12-point font.

Manuscripts will use editorial style outlined in *The Publication Manual of the American Psychological Association*, seventh edition. References must be manually typed. (The automatically generated references employed by Microsoft Word have proven to be extremely problematic during conversion into final layout format for publication, causing delays and additional rekeying of material.) Manuscripts that arrive with automated references will be returned to the authors for compliance with submission requirements. Bibliographies will not be used and should not be submitted with manuscripts.

Submissions must include a one-paragraph abstract and a biography not to exceed 175 words in length for each author. Such biographies might include significant positions or assignments, notes on civilian and military education together with degrees attained, and brief allusions to other qualifications that establish the bona fides of the author with regard to the subject discussed in the article. Do not submit manuscripts that have been published elsewhere or are under consideration for publication elsewhere.

Authors are encouraged to supply relevant artwork with their work (e.g., maps, charts, tables, and figures that support the major points of the manuscript. Illustrations may be submitted in the following formats: PowerPoint, Adobe Illustrator, SVG, EPS, PDF, PNG, JPEG, or TIFF. The author must specify the origin of any supporting material to be used and must obtain and submit with the article permission in writing authorizing use of copyrighted material. Provide a legend explaining all acronyms and abbreviations used in supplied artwork.

Photo imagery is discouraged but will be considered if it is germane to the article. Authors wanting to submit original photographs need to do so in JPEG format with a resolution of 300 DPI or higher. Each submitted photo must be accompanied by a caption identifying the date it was taken, the location, any unit or personnel in the photo, a description of the action, and a photo credit specifying who took the photo. Captions should generally be between 25 and 50 words.

The *Journal of Military Learning* (*JML*) will not consider for publication a manuscript failing to conform to the guidelines above.

The editors may suggest changes in the interest of clarity and economy of expression; such changes will be made in consultation with the author. The editors are the final arbiters of usage, grammar, style, and length of article.

As a U.S. government publication, the *JML* does not have copyright protection; published articles become public domain. As a result, other publications both in and out of the military have the prerogative of republishing manuscripts published in the *JML*.

Call for Papers

The *Journal of Military Learning* (*JML*) is a peer-reviewed semiannual publication that supports efforts to improve education and training for the U.S. Army and the overall profession of arms.

We continuously accept manuscripts for subsequent editions with editorial board evaluations held in April and October. The *JML* invites practitioners, researchers, academics, and military professionals to submit manuscripts that address the issues and challenges of adult education and training, such as education technology, adult learning models and theory, distance learning, training development, and other subjects relevant to the field. Submissions related to competency-based learning will be given special consideration.

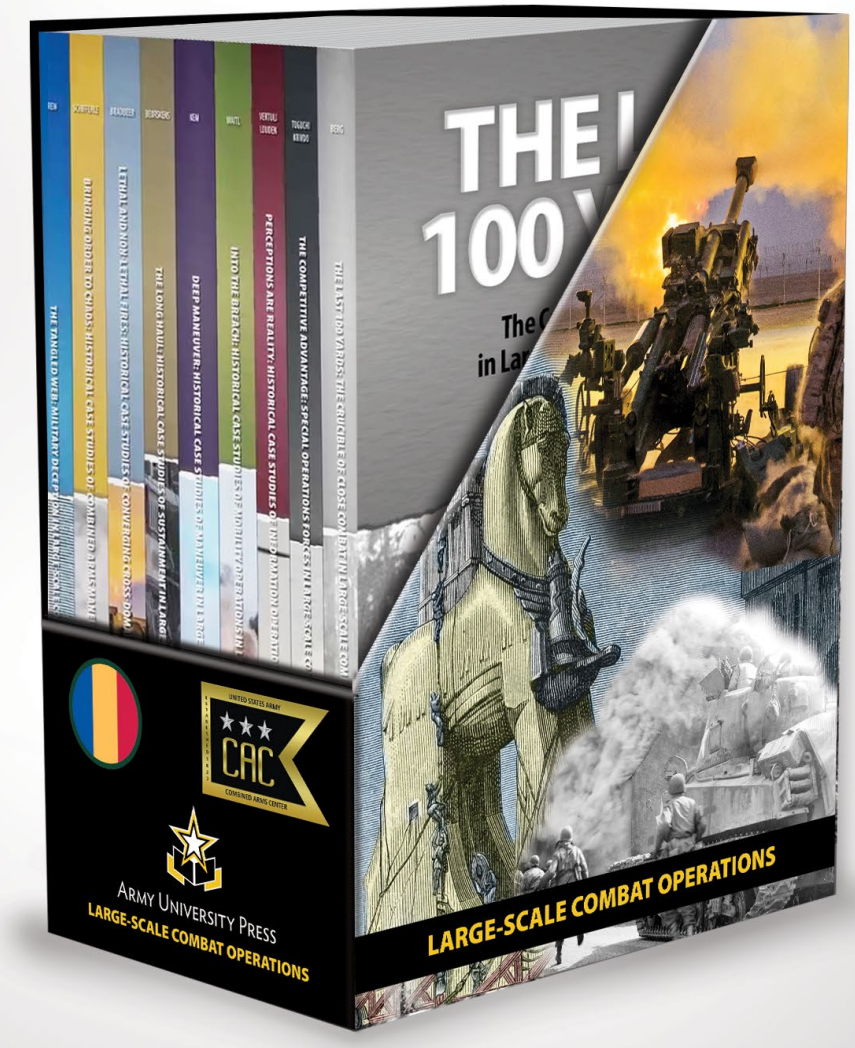
Submissions should be between 3,500 and 5,000 words and supported by research, evident through the citation of sources. Scholarship must conform to commonly accepted research standards such as described in *The Publication Manual of the American Psychological Association*, 7th edition.

Do you have a "best practice" to share on how to optimize learning outcomes for military learners? Please submit a one- to two-page summary of the practice to share with the military learning enterprise. Book reviews of published relevant works are also encouraged. Reviews should be between 500 to 800 words and provide a concise evaluation of the book.

Manuscripts should be submitted to usarmy.leavenworth.tradoc.mbx.journal-of-military-learning@mail.mil by 1 April and 1 October for the October and April editions respectively. For additional information call 913-684-9331 or send an email to the address above.

LARGE-SCALE COMBAT OPERATIONS

The Army University Press is proud to present the nine-volume Large-Scale Combat Operations Historical Case Study book set. The downloadable version of the book set is available at https://www.armyupress.army.mil/Books/Large-Scale-Combat-Operations-Book-Set/. Three additional volumes will soon be added to the series!



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