

JANUARY–FEBRUARY 2016

ARMY SUSTAINMENT

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ARE YOU A GOOD LEADER?

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Logistics

Mission Command and Leadership
During Sustainment Operations

What Makes a Good
Leader?

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This issue's cover comprises the faces of sustainment Soldiers and civilians from across the Army. It represents the vast array of individuals serving in a variety of leadership positions in today's sustainment units. (Cover design by Adam Gramarossa and Fred W. Baker III)

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PHONE: (804) 765-4755 (DSN 539-4755)
USARMY.LEE.TRADOC.MBX.LEEASMAIL.MIL
WEBSITE: WWW.ARM.Y.MIL/ARMYSUSTAINMENT

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Leadership for Expeditionary Logistics

What makes a good leader? The Army G-4 offers his views on leadership and provides advice for new and potential commanders.

■ By Lt. Gen. Gustave “Gus” Perna



Restoring our ability to execute expeditionary logistics will only be accomplished by leaders who know what right looks like, or who can learn what it looks like, and then coach, teach, and mentor that understanding across their formations.

A few months ago I sent a note to fellow senior leaders asking them to contribute articles to *Army Sustainment* magazine in 2016. My intent was to leverage their significant experience and vision as we collectively transition from predictable, cyclic deployments to no-notice, expeditionary operations.

You will see the results of the invitation in this issue. Three great leaders, two from the present and one from the past, have contributed thoughtful articles that will make us better. Lt. Gen. Robert S. Ferrell, the Army's chief information officer/G-6, Maj. Gen. Darrell K. Williams, commander of the Combined Arms Support Command, and retired Lt. Gen. Arthur J. Gregg, a former Army G-4, provide their perspectives on leadership and mission command. For future issues, many more senior leaders will be picking up their pens, and I look forward to reading their insights.

This issue also marks a new approach that *Army Sustainment* will now use to assemble its high-quality publication. Every issue will focus on a central theme with many articles in that issue oriented on that theme.

This approach, developed in collaboration with the Army G-4 office, provides a nice change of pace. You will see that it is an effective way to generate discussion and new ideas.

Why Leadership?

I selected leadership as the focus of this issue because we are in a period in which leadership and leader development are absolutely critical. The changes that are re-

quired across our Army in logistics planning and execution will not be accomplished by a new piece of equipment or a new process.

Restoring our ability to execute expeditionary logistics will only be accomplished by leaders who know what right looks like, or who can learn what it looks like, and then coach, teach, and mentor that understanding across their formations.

Simultaneously, today's leaders must develop adaptive future leaders who can operate successfully in increasingly complex environments. I have observed over the last 10 years that many Soldiers have received exceptional evaluations because they did tremendous work as we fought two wars. But great reports and even combat service do not guarantee that these same people are ready to lead at higher levels.

You can be a great staff officer, but that does not make you a great commander. You can be a great company commander, but that does not mean you will do well as a battalion commander. Performing well as an Army leader, especially at higher levels, takes continued self-development, honest self-awareness, and a few other characteristics I will address below.

The Leadership Triad

I find it helpful to visualize key leadership characteristics as a triangle with three distinct sides: commitment, competence, and character. All three are important for a leader to possess.

When I ask majors which one is the most important, they usually say competence. But the fact is you can be highly competent—successfully



accomplishing missions with discipline and rigor—and highly committed to honorable service to the Army. But if you lack character, if you do not adhere to Army values and the ethics of our profession, you are missing a key element.

I have watched too many great leaders do magnificent work but go astray in their professional ethics. So, for me, character is the most important.

My belief is that anyone who wants to be selected for the highest levels of leadership—battalion or brigade command and potentially service as a general officer—must strive for even higher standards.

Beyond the Triad

When I am deciding whether or not officers and noncommissioned officers are eligible to advance to higher levels of responsibility, I first validate that they are all of high character, commitment, and competence. Then I assess them against four questions:

- ☐ Are they team builders?
- ☐ Are they team players?
- ☐ Can they think bigger than themselves and their unit?
- ☐ Are they thinking about what is best for the Army, the nation, or society as a whole?

Let me illustrate. A few years ago, a forward arming and refueling point (FARP) in Afghanistan was destroyed by a rocket attack. The company asked surrounding units if they had any extra equipment that could be used to re-establish the FARP.

Many commanders immediately said no, thinking that giving away extra equipment might risk their own units' readiness. But some Soldiers, thinking bigger than themselves, checked their unit inventories and found ways to offer equipment without degrading their own units.

So before you draw your "red line" of what you will or will not do, always ask yourself what is best for our Army and our nation.



This triangle represents the three elements effective leaders need: competence, commitment, and character.

Tips for New Commanders

Before leaders go out to the field to take command, I offer them this advice.

Understand the difference between training and developing. You can train Soldiers to repair a specific item, but if you instead develop their ability to understand and operate a complex repair operation, they can provide much greater value to their units and the Army.

Do not believe your own press clippings. If you get a good evaluation, show it to your mom or spouse, and then put it away. Good leaders are not consumed by their evaluations; positive reports just follow them naturally.

Good leaders are not interested in getting credit. Good leaders focus on how to highlight and praise members of the team. If someone says, "Great job, Col. Smith," they reply, "Thank you, but Maj. Jones did all the work; I will pass your comments on to her."

Understand that the bedrock of our profession is trust. Good leaders are the ones who do what is right when no one is looking because it is the right thing to do. If you choose to

compromise your integrity, there is no turning back.

Know that mission command is one of the most important investments a leader can make. Clear guidance and intent can go a long way in a disciplined organization.

We owe it to our Soldiers to have leaders who are ready. From my perspective, this means leaders who have the highest levels of character, competence, and commitment. It means having leaders who are team builders and team players and who consistently think bigger than themselves and their units. And it means having leaders who are open to new ideas, who keep learning, and who, most of all, are adaptive and can operate successfully in increasingly complex environments.

Lt. Gen. Gustave "Gus" Perna is the Army Deputy Chief of Staff, G-4. He oversees policies and procedures used by 270,000 Army logisticians throughout the world. Prior to joining the Army staff he served for two years as Deputy Chief of Staff, G-3/4, Army Materiel Command.



Mission Command and Leadership During Sustainment Operations

The complexities of command and support relationships, both at home station and during deployments, necessitate mission command.

■ By Maj. Gen. Darrell K. Williams



In the spring of 2015, I visited the medical and dental facilities at Bagram Airfield, Afghanistan. I was especially impressed by a young private first class who escorted me through the dental facility portion of the visit. It was a Sunday, a day on which many Soldiers are given time to attend church services, clean their laundry, and take care of other personal business.

Since an officer and senior non-commissioned officer had walked me through the hospital, I wondered quietly, “Where is the officer-in-charge of the dental facility?”

I asked the Soldier about the manning of the clinic, and she very professionally explained that the clinic had been downsized to only a captain as the dentist and herself as the dental assistant. I then asked where the captain was, and she said, “Sir, I gave him the day off.” When I asked who was in charge, she stated, “I’m in charge, Sir.”

As I reflected upon this encounter, I asked myself two questions that illustrate the power of our Army’s leadership model and our concept of mission command. First, how many armies in the world would entrust a private first class to escort a two-star general? Further, how many privates first class in any military, besides our own, would be confident and empowered enough to run the facility and “give the captain the day off?” The answer I suspect is very few if any, and therein lies our greatest strength.

Given the Army’s propensity to conduct highly dispersed mission sets across the full spectrum of military operations, we will continue to depend on Soldiers and leaders at the lowest levels to sustain operations and win in a complex world. Engaged leadership, a thorough understanding of the operational commander’s intent, and dexterity with the concept and tools of mission command will remain among the most important aspects of successful global sustainment operations.

Mission Command

Mission command is both a warfighting function and a powerful philosophy. It is as central to the sustainment warfighting function as it is to intelligence, movement and maneuver, fire support, and protection.

Army Doctrine Reference Publication 6-0, Mission Command, states, “Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within

the commander’s intent to empower agile and adaptive leaders in the conduct of unified land operations.”

Mission command encompasses both the art and the science of command; the art is accomplished by agile and adaptive leaders, and the science is supported by critical mission command systems and enablers. In particular, sustainment professionals require highly integrated and synchronized mission command processes from the tactical to strategic levels in uncertain and rapidly changing environments.

Over the past 14 years, decentralized and distributed sustainment operations have persisted. U.S. Army Africa and the 101st Airborne Division’s rapid deployment during the recent Ebola crisis in Liberia was an example of the breadth and scope of operations supported by our sustainment forces.

Similarly, support to the Operation Atlantic Resolve and Pacific Pathways exercises demanded a mission command framework for U.S. Army Europe and U.S. Army Pacific, respectively. While support challenges are as varied as the missions and areas of operations, superior leadership and mission command structure, combined with enabling capabilities, provide the building blocks for successful sustainment operations, regardless of the environment or region of the world.

A Complex Collaboration

Within a theater of operations, mission command systems are an essential prerequisite at all levels.

Movement control teams, financial management detachments, postal platoons, and ammunition platoons often accomplish their missions dispersed in forward locations separated from their higher headquarters.

Sustainment brigades, materiel recovery elements, support battalions of all types, finance and human resources companies, and customs inspectors operate across vast distances, while our expeditionary sustainment commands (ESCs) independently orchestrate support to an entire combined joint operations area.

Meanwhile our theater sustainment commands (TSCs), Army field support brigades, and transportation brigades support the entire combatant command theater of responsibility. Within the TSC headquarters, the human resources and financial management centers enable theaterwide operations.

Given that 80 percent of sustainment units reside in the Reserve component, the interoperability generated by mission command enablers is paramount to our shared understanding and teambuilding. From top to bottom, in all capabilities, leaders need a common operational picture.

The mission command structure for sustainment enables the support we receive from joint and enterprise partners, such as the Defense Logistics Agency (DLA), Military Surface Deployment and Distribution Command (SDDC), U.S. Transportation Command (TRANSCOM), and Army Materiel Command (AMC).

DLA is the Department of Defense's worldwide service provider for a range of critical supplies and services. Together, TRANSCOM and SDDC provide global military and commercial transportation and distribution of our personnel, equipment, supplies, and retrograded cargo. AMC provides pre-positioned stocks, contracting services, support to commercial off-the-shelf technology, and a direct link to our vast continental United States organic industrial base.

The association of TSCs and ESCs

with these agencies, under the mission alignment of an Army service component command, combined joint task force, or other designated operational headquarters, offers U.S. land forces power projection, global reach, and the ability to conduct sustained operations.

The combatant commander's directive authority for logistics enables Army sustainment forces to provide critical common-user logistics support to our sister services and allied and coalition partners. The Army works with joint, interagency, and multinational partners to ensure sufficient capacity and interoperability to enhance strategic and operational depth and endurance.

The deputy chief of staff of the Army G-4 assists in providing vital policy guidance and oversight for Army sustainment operations. For acquisition, the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology develops, acquires, fields, and sustains materiel by leveraging domestic and international, organic, and commercial technologies and capabilities.

Simply put, the full range of military operations involves a very complex interaction between numerous organizations and agencies. This interaction would be much harder to accomplish without mission command.

Mission Command While Deployed

Because of their theaterwide support missions, many organizations provide general support on an area basis rather than direct support to just one command. Even though they do not fall directly under the command and control of each echelon of maneuver commanders, they remain linked by a common purpose and unity of effort.

Unity of effort is achieved through boards, centers, and cells, such as U.S. Central Command deployment and distribution operations centers. These organizations and processes do not fall under our traditional understanding of command and control but clearly assist in achieving

the common understanding required under the auspices of mission command. Success is assured through a clear understanding of the commander's intent and adherence to the philosophy of mission command.

Fundamentally, mission command is far more important and more powerful than traditional command and control. For example, within U.S. Army Central, the 1st TSC is assigned two sustainment brigades: one in Kuwait for support throughout the region to include Iraq, and one in Afghanistan to support Operation Freedom Sentinel and Inherent Resolve. Both brigades report to the 1st TSC's operational command post in Kuwait.

However, the 1st TSC's operational control and tactical control responsibilities, as designated by U.S. Army Central, extend to a larger array of sustainment forces and capabilities. An Army field support brigade, transportation brigade, contracting support brigade, and several smaller organizations operate under the mission command of the 1st TSC.

Several joint and enterprise logistics organizations also plug into this structure to create a seamless common operational picture of sustainment for the operational commander. This mission command arrangement is easily repeated in each combatant command's theater of responsibility.

Broad mission sets and distributed operations necessitate a clear understanding of the operational commander's intent. Distance and communication gaps often preclude face-to-face delivery of mission orders. However, leaders at all levels of our Army are expected to execute effectively in the absence of specific mission orders; it is ingrained in our leadership culture.

Mission Command at Home

Mission command and the application of leadership is as relevant to garrison operations, home-station training, and combat training center sustainment operations as it is to a deployed operations. The critical

support organizations and capabilities that must coalesce to support corps, division, and brigade combat team commanders' intents are equally important.

On our major operational troop installations, brigade support battalions, aviation support battalions, sustainment brigades, and combat sustainment support battalions, Army field support brigades, Army field support battalions, logistics readiness centers, and garrison commands all provide essential elements of support to unit training.

The brigade support battalions and aviation support battalions directly support their maneuver brigades, while combat sustainment support battalions typically provide a broader range of support across the division or corps. AMC units and activities provide varying degrees of critical sustainment support, from installation maintenance to contracting services to supply support activity management.

Depending on the installation, a sustainment brigade, ESC, or TSC provides the division, corps, or Army service component command with oversight and management of sustainment operations. Troop dining facility operations today are run largely by a combination of garrison commands, contractor support, and operational units.

Several of our joint enterprise partners also reside and support Army forces on our installations. DLA runs disposal operations, and SDDC works with installation transportation offices and division and corps G-4s to schedule shipments to and from training centers.

The complexities and array of command and support relationships necessitate mission command. The imperative to integrate and synchronize these operations in garrison is as critical as it is in a theater of operations.

Mission Command Systems

One thing is certain: whether deployed, operating in home-station training, or at a training center, mission command systems and sus-

tainment enablers are critical to our success. What is absolutely required to assist commanders and professionals at all levels to manage this complexity is a common operational picture.

The Army is rapidly transitioning from legacy supply accountability, maintenance, financial management, and human resources information systems that have served us well over the past three decades.

Our legacy systems, such as the Property Book Unit Supply Enhanced, the Standard Army Retail Supply System, the Standard Army Maintenance System-Enhanced, and the Standard Army Ammunition System-Modernization, simply do not provide the auditability or flexibility demanded in this much more dynamic environment.

The Army will adapt useful Battle Command Sustainment Support System software and incrementally deploy interim logistics applications across the range of computing environments. These interim logistics applications will integrate tactical and business data in a graphical orientation, allowing individuals and groups to solve semistructured and unstructured problems, perform sensitivity and goal-seeking analysis, and improve the overall effectiveness of decision-making.

Fortunately, the Army has already transitioned its accounting operations to the General Fund Enterprise Business System (GFEBS). This system replaces or absorbs more than 80 legacy accounting and asset management systems to standardize business processes and transactional input across the Army.

Supply, maintenance, and other critical support functions are presently being assumed by Global Combat Support System Army (GCSS-Army). This system replaces the suite of logistics information systems and integrates field financial management into one system. GCSS-Army will affect every supply room, motor pool, maintenance repair shop, warehouse, and property book in the Army, both in operational units and

in fixed-base operations such as logistics readiness center warehouses and maintenance organizations.

Finally, the Army will begin fielding the Integrated Pay and Personnel System-Army (IPPS-A) in fiscal year 2018, first to the Army National Guard and then to the rest of the Army. IPPS-A is the Army's cutting edge, web-enabled human resources management system for personnel and pay actions.

The system standardizes, streamlines, and shares critical data across the Active Army, Army National Guard, and Army Reserve. When fully implemented, IPPS-A will create one personnel and pay record for each Soldier for his or her entire career. It will also automate pay procedures so personnel actions automatically trigger associated pay events.

Together and when fully fielded, GCSS-Army, GFEBS, and IPPS-A will usher in a new common operational picture arena and better accountability for commanders and sustainment professionals. Simultaneously, the systems will enable training, garrison support, and full-spectrum operations while deployed.

For more information on these systems, visit <http://www.eis.army.mil/programs/gfebs>, <http://www.eis.army.mil/programs/gcss-a>, and <http://www.eis.army.mil/programs/ipps-a>.

Our culture of leadership and our contemporary environment demand systems and processes to be adaptive, disciplined, and decisive. A private first class is empowered by leadership training, authority, and disciplined initiative in decision-making to run a dental clinic in the absence of the captain; a sustainment professional is enabled by information, communication, and structure to support unified land operations.

Maj. Gen. Darrell K. Williams is the commanding general of the Sustainment Center of Excellence and Combined Arms Support Command at Fort Lee, Virginia.



Pfc. Brian Roth, a distribution company vehicle driver, is awarded the Combat Action Badge from Col. Tim McAteer at Al Asad Airbase, Iraq. Roth earned the award for his actions during a roadside bomb attack on his vehicle while on a unit resupply mission. (Photo by Staff Sgt. Nancy Lugo)

Maturing Our Leaders in the Warrior Ethos

■ By Col. Robert L. Hatcher Jr.

The Army is an amazing organization in many respects. One aspect that stands out prominently is how it builds a homogeneous warrior culture from the vast array of cultural backgrounds that come into it.

A second profound aspect of the Army is how thoroughly it addresses problems. Instilled discipline nested

in the foundation of the Army Values and Warrior Ethos gives rise to the far-reaching capability to defend our nation.

This discipline is facilitated by Army characteristics such as the unreserved submission to civilian leadership, the complete accountability to authority, the widespread study of problem-solving and decision-

making, and the tenacious determination to accomplish all mission objectives.

The Army's Warrior Ethos has remained steadfast while Army leaders have developed in a manner that reflects the social issues of U.S. culture. The Army's responses to debated cultural topics have allowed it to meet objective goals and

have remained compatible with its fighting and disciplined force.

Issues such as racism, moral character, equality, female Soldier occupations, and recently, sexual harassment and assault continue to find their logical conclusions in the military. The Army's professional

the Army brings them into direct contact with the Soldier's Creed and the Warrior Ethos embedded in its words. Adopted in its current format in 2003, it resonates with veterans from all eras. The creed captures the essence of soldiering incredibly well, and the principal components of a Soldier's subsequent actions can be traced to these words.

We incorporate into every activity and facet of thinking the fact that a Soldier will always place the mission first, never accept defeat, never quit, and never leave a fallen comrade. As we live these words and apply them to our behavior, we influence the people we contact.

The nation's social issues change, and the military has to identify the effects of those issues on policy and procedures. When women in combat units were prohibited by law, both cultural changes and battlefield geography shaped U.S. attitudes on the subject.

Many service members felt that they were living a lie under the "don't ask, don't tell" policy and violating the very values that were required of them. The Army's cultural heritage may have been more of the impediment to allowing women to attend Ranger school than other more relevant factors.

A Leader's Duty

Mark Twain said, "Do the right thing. It will gratify some people and astonish the rest." Leaders are the principal proponent for those they lead, and their actions should be routine, not astonishing.

Leaders actively seek to align behavior to their professional ethic and the Warrior Ethos. Leaders understand that people adhere to expected behavior because of a reward or the fear of punishment or because it is as deeply seated as a closely held belief.

A leader's goal should be to move the behavior from enforced adherence to rules to a more natural and desired conviction. Leaders start by

modeling behavior and enforcing it with subordinates. For all leaders, "audio must match video." Additionally, we have to exhibit the moral courage to report or correct infractions among all ranks.

Early in my career, I witnessed officers lie to a senior officer, and even while I found it shocking, I made no move to correct it. The lie was obvious and the subsequent result—stern and loud corrective counseling—enforced how wrong it was and fixed those lessons deeply into my way of thinking.

I have witnessed senior leaders request obvious violations of ethical conduct on more than one occasion, such as the misuse of a government credit card or the reporting of a lost sensitive item as a "combat loss." Those requests were ignored or advised against, and we were able to achieve the desired effect by legal means. Recognizing that situations with no ethical, positive outcome may arise, a leader has to decide to take the moral high ground regardless of consequences.

Violations of honesty or integrity are no different from violations of respect and decency. Hazing, harassment, and equal opportunity violations have no place in an orderly, trained, and ready Army in which Soldiers must trust one another. Living with honor and high standards of character and discipline are enduring requirements.

Unacceptable behavior in my squad or office place must be remedied. Backed by the Warrior Ethos, the Army has an unassailable position of leadership and respect in the world.

The strength of our nation is our Army. The strength of our Army is our Soldiers. The strength of our Soldiers is our families. This is what makes us Army Strong!

Col. Robert L. Hatcher Jr. is the chief of staff of the Combined Arms Support Command at Fort Lee, Virginia.



Warrior Ethos

- I will always place the mission first.
- I will never accept defeat.
- I will never quit.
- I will never leave a fallen comrade.

force—enabled by submission, accountability, problem-solving, and determination—takes no prisoners and accepts nothing less than success once a decision is made.

Ethics and Morals

I have witnessed an incredible evolution in the Army on social matters and the indisputable importance of ethical and moral behavior in the workplace and on the battlefield. A false or exaggerated report can misallocate resources, creating distrust and placing units at risk.

Likewise, sexual harassment and assault undermines readiness and trust among Soldiers, the U.S. public, and host-nation citizens. Therefore, the Sexual Harassment/Assault Response and Prevention program is a logical priority for the Army.

Soldiers' first introduction into

Warfighting Functions and the Dependability of Knowledge

■ By Christopher R. Paparone and George L. Topic Jr.

A central precept of military doctrine is the recognition that uncertainty is a fundamental characteristic of military operations. Nonetheless, we have an understandable but dangerous propensity to assume predictable and quantifiable aspects of military science. But when outcomes do not match our planning, we are surprised.

The purpose of this article is to stimulate discussion about our doctrinal frameworks, particularly those vested in incommensurate warfighting functions. We want to draw attention to the risks of treating military operations as if they can be controlled by logic based on hard science. This logic is very seductive, but we should pay more attention to the nebulous, undependable, soft-science structures that call for more subjective judgments.

In *Understanding Military Doctrine: A Multidisciplinary Approach*, Harald Høiback posits that not all doctrine is created equal; some concepts lend themselves to less reliable forms of knowledge. In figure 1, we offer a crude adaptation of Høiback's typology to illustrate and compare the relative commensurability of the Army's warfighting functions.

Fires and many aspects of sustainment are more like the hard sciences than other warfighting functions. This is because they are more amenable to predictive scientific methods that offer reasonably reliable results. For example, an enemy headquarters can be targeted and attacked with carefully engineered precision using computer science, trigonometry, and global-positioning technology. Similarly, calculating and optimizing troop transport and resupply is easily done using hard-science methods.

On the other end of the doctrine

spectrum sit intelligence and engagement (the latter is a proposed warfighting function). They are softer-science warfighting functions that focus on the socio-psychological aspects of military operations. These operations are far less replicable, and their use may have important, unexpected side effects. Soft science, associated with influencing enemy and friendly intentions, is applied under a constantly changing context.

We recognize this portrayal is not perfect because there are multiple variations within each warfighting function. For example, religious and legal support fall under the sustainment warfighting function, which includes the more computational science of logistics. On the other end, geospatial intelligence about enemy firing positions would push the intelligence warfighting function further toward the hard-science end of the spectrum.

However, we believe the typology provides a macro view that is useful for highlighting a potential blind spot: the tendency to treat all warfighting functions equally when it comes to their knowledge dependability. In

particular, warfighting functions are rolled up uncritically into concepts of operation and campaign plans.

The implications of treating all warfighting functions as the same kind of knowledge are significant. As we attempt to assess readiness before operations, the practice can cause us to assume more certainly that things will work as planned. While this feeling of being in control may be satisfying, such reliability is not possible given the Army warfighting functions' hodgepodge of knowledge structures.

Our concern is that our doctrine-based schools and centers do not train and educate with this range of knowledge dependability in mind. If we do not consider this range of dependability, we should not be surprised when we are surprised.

Dr. Christopher R. Paparone is a dean at the Army Logistics University at Fort Lee, Virginia.

George L. Topic Jr. is the vice director of the Center for Joint and Strategic Logistics at Fort McNair, Washington, D.C.

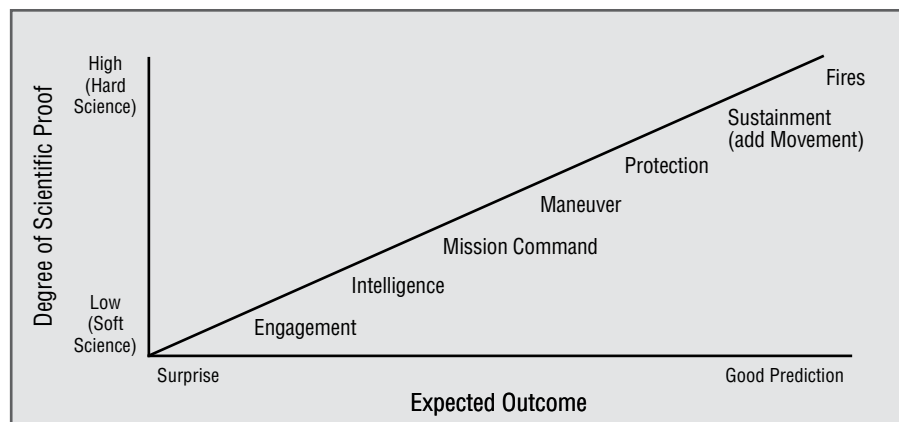


Figure 1. Warfighting functions and the dependability of doctrinal knowledge. (Adapted from work by Harald Høiback)



John Plifka (center), the director of the Training and Doctrine Command Quality Assurance Office, presents a plaque on behalf of the Council on Occupational Education to the Quartermaster School for 40 years of sustained training and educational excellence. Accepting on behalf of the school are Brig. Gen. Ronald Kirklin (left) and Command Sgt. Maj. Jimmie Sellers. (Photo by Keith Desbois)

Sustaining a Decisive Edge

Through its Leader and Workforce Development Program, the Quartermaster School has implemented several leadership development measures, including a civilian professional development strategy.

■ By Brig. Gen. Ronald Kirklin and Marshall J. Jones

In its introduction, the Army Human Dimension Strategy 2015 stresses, “In this changing world, the Army must actively seek innovative approaches to leverage its unique strength—its people. Through investment in its human capital, the Army can maintain the decisive edge in the human dimension—the cognitive, physical, and social components of the Army’s trusted professionals and teams.”

The Army Operating Concept 2025 and the Army Functional Concept for Sustainment are designed to strengthen the Army today and into the future. The Army’s Human Dimension Strategy 2015 complements both of these concepts. When viewed holistically, these documents establish the long-range vision for an affordable and sustainable premier fighting force.

Leader Development

The Quartermaster School (QMS) has implemented leader development practices through its Leader and Workforce Development Program, which promotes the growth and sustainment of its leaders and members of its composite workforce. Among these practices are a robust counseling, coaching, and mentorship program, enhanced training and educational opportunities, and a highly

effective civilian professional development (CPD) strategy, which was recognized as a best practice during a recent fiscal year 2015 Training and Doctrine Command accreditation assessment.

Effective leader-employee workforce development is a deliberate, continuous, and progressive process, solidified in Army values, that grows Soldiers and Army civilians into competent, committed professional leaders of character. The QMS Leader and Workforce Development Program is based on three key attributes: simplicity, relevance and value added, and achievability and sustainability.

Army Doctrine Publication 7-0, Training Units and Developing Leaders, adamantly conveys that “unit training and leader development are inextricably linked.” An integral part of the QMS charter is to provide basic knowledge and requisite skills to assist with the growth and development of leaders and members of the composite workforce.

While fully realizing that most leader development occurs in operational assignments and through self-development, the QMS has enhanced its Leader and Workforce Development Program through various initiatives. Effective counseling, coaching, and mentorship requires special individuals who are committed to investing in human capital.

The school’s success is attributed to a top-down and bottom-up approach. Effective leaders epitomize and continually promote the role and criticality of effective counseling, coaching, and mentorship. The school has now embedded this into its overall Ready and Resilient Campaign in an effort to better fulfill key tenets of the Army’s Leader Development Strategy 2015 and the complementary Human Dimension Strategy.

Civilian Professional Development

The key features of the QMS CPD strategy are its simplicity and achievability. The strategy promotes

a Department of the Army civilian professional career development and progression culture in QMS that ensures civilian members of the workforce are proficient in their job assignments.

This strategy contributes to overall mission effectiveness and operational readiness. Furthermore, the strategy embraces the desire to help civilians develop and sustain the requisite knowledge, skills, and abilities that can help them make use of career-enhancing job opportunities.

The QMS CPD strategy has two important parts that directly complement the Army’s Civilian Workforce Transformation program: the QMS CPD Handbook and the QMS Civilian Employee Wellness Program.

QMS CPD Handbook. The Quartermaster School’s CPD Handbook serves as the school’s primary source document to assist its civilian employees with using available opportunities. It provides clear direction on developing knowledge and skills for career development and advancement. It also serves as a guide to assist in developing the knowledge and skills required to meet performance objectives and complete organizational tasks.

QMS Civilian Employee Wellness Program. The Civilian Employee Wellness Program helps QMS employees “achieve and sustain professional and personal balance.” It leverages and incorporates key workforce professional growth and development enablers, such as effective mentorship and coaching programs, new employee acculturation and onboarding, physical fitness, and stress management programs.

QMS also conducts a Civilian New Hires Acculturation and Onboarding Program annually. Acculturation is the process through which new employees learn, adjust to, and internalize the Army culture. Onboarding is the strategic process designed to integrate and acclimate new employees into the organization and prepare them to contribute at a desired level as quickly as possible.

CPD Success

The CPD strategy is considered successful if QMS can meet two requirements. First, at least 95 percent of civilian employees must have current, approved, and viable individual development plans that are nested in the Combined Arms Support Command Action Plan and Quartermaster School Action Plan. Second, at least 33 percent of the assigned civilian workforce must conduct at least 80 hours of formal training or education annually.

QMS civilian employees who commit to embracing the QMS CPD strategy will undoubtedly achieve some success. However, that should not keep employees from actively pursuing self-development opportunities throughout their professional civilian careers.

The desired result of the strategy is for the QMS to have civilian professionals with critical thinking skills and functional competencies that enable them to make an immediate impact in support of unified land operations and our nation’s security interests.

The QMS Leader and Workforce Development Program leverages multiple efforts to assist with shaping its human dimension strategy in support of its leaders and workforce at large. Although still evolving, the program is a valuable asset for the Army’s current and future sustainers and helps to ensure that the Army sustains a decisive edge.

Brig. Gen. Ronald Kirklin is the 53rd Quartermaster General and the commandant of the Quartermaster School at Fort Lee, Virginia. He is a graduate of the Army War College.

Marshall J. Jones is the Quartermaster School deputy commandant and senior civilian advisor to the Quartermaster General. He holds a bachelor’s degree in plant and soil science from Virginia State University and a master’s degree in agronomy from the Ohio State University.



Theater Aviation Sustainment and Maintenance Group Soldiers offload an AH-64 Apache helicopter from a C-5 Galaxy aircraft during a night mission at an aerial port of debarkation. (Photo by Staff Sgt. Donald Craze)

Sustainment in an Anti-Access/ Area-Denial Environment

The sustainment enterprise needs to significantly change both its structures and how it operates to effectively support the joint force in an anti-access/area-denial environment.

■ By Samuel R. Bethel

The lights go down as the briefing to the combatant commander begins. "Sir, at 0330 hours local time, hostilities commenced. Following its pre-war doctrine, our adversary initiated a series of anti-access/area-denial attacks to disrupt coalition forces' deployment. Focusing almost exclusively on our logistics and force projection enterprises, the enemy has achieved decisive results.

At 0432 hours, a diesel submarine us-

ing advanced antishipping missiles sank two unescorted large medium-speed roll-on/roll-off ships transporting enough equipment for a heavy brigade combat team. At 0515, the primary theater fuel storage area was attacked by intermediate-range ballistic missiles, destroying most of the fuel needed by the Air Force to perform counter-air operations.

At 0639 hours, a third ship struck what is believed to be an intelligent mine

while moving into our primary seaport of debarkation. The Navy believes it will take two weeks to clear the channel of any similar threats. Simultaneously, enemy special forces have emerged from the countryside and attacked numerous convoys.

Currently, our logistics networks are under heavy cyberattack, and at this time, we have no connectivity with the national supply system. The list goes on,

but in summary, our ability to reinforce and support current forces has been all but eliminated. This will preclude any major combat operations until the situation is rectified."

This scenario is not the script of some Hollywood movie. Potential adversaries are investing billions of dollars into making that situation a reality. These measures, known collectively as anti-access (A2)/area-denial (AD), will require the sustainment enterprise to significantly change both how it structures its force and how it operates.

The Joint Operational Access Concept defines A2 as "those actions and capabilities, usually long-range, designed to prevent an opposing force from entering an operational area." The concept defines AD as "those actions and capabilities, usually of shorter range, designed not to keep an opposing force out, but to limit its freedom of action within the operational area."

A2 includes a range of military capabilities that affect the sustainment enterprise's ability to deploy the force. These capabilities include submarines and surface combatants equipped with advanced antishipping missiles, smart mines designed to lie dormant for months, advanced anti-aircraft systems, theater ballistic and cruise missiles that can threaten both aerial ports of debarkation (APODs) and seaports of debarkation (SPODs), and cyberattacks against sustainment networks.

AD often exploits the same capabilities as A2, but it focuses primarily on the ability of the sustainment enterprise to support the force. These threats run the gamut of military operations and include cruise and tactical ballistic missile attacks against supply and transportation nodes, hybrid threats (special operations forces and insurgents) that organize attacks against convoys and rear-area activities, and man-portable air-defense systems to interdict and cause attrition to the air lines of communication (LOCs).

The A2/AD Threat

The threat is real. Former Secretary of Defense Robert M. Gates noted in a May 2010 speech to the Navy League, "Potential adversaries are investing in weapons designed to neutralize U.S. advantages—to deny our military freedom of action while potentially threatening America's primary means of projecting power: our bases, sea and air assets, and the networks that support them."

China, Russia, Iran, and North Korea are all investing heavily in A2/AD strategies and capabilities. The use of A2/AD is not restricted to advanced nation states. Even the Lebanese terrorist group Hezbollah has possession of advanced guided missile systems, including SS-N-26 Yakhont anti-ship missiles. Although they are not necessarily aimed at the United States, this advanced A2/AD threat being in the hands of a nonstate actor indicates the widespread nature and relative low cost of implementing an A2/AD strategy.

The Army's experience in both Iraq and Afghanistan demonstrates the vulnerability of supply convoys and troop movements to relatively poorly trained insurgents. This threat will be compounded if executed by highly trained special operations forces.

As a result of A2/AD, the sustainment enterprise will face a heavy threat of cyberattacks. Even poor and technologically unsophisticated nations now possess significant cyber-attack capabilities.

The joint force and its supporting sustainment enterprise is hardly powerless in the face of the A2/AD threat. Coping with this new environment will require the joint force to implement five broad strategies: suppression, active defense, dislocation, dispersion, and redundancy. Each of these strategies will profoundly affect how the sustainment enterprise operates and how it is structured.

Suppression

The preferred strategy for defeating the A2/AD threat is the active destruction or suppression of the en-

emy's capability. Destroying the enemy's A2/AD assets requires a large, early deployment of Army, Navy, Air Force, and Marine Corps elements to establish air, maritime, and cyber superiority using a combination of fire and maneuver. These deployments in turn will have to be supported by the sustainment community.

The Army sustainment enterprise, with its requirement to provide support to the other services, particularly the Air Force and Marine Corps, in such diverse specialties as fuel, port operations, and common-user land transportation, remains an integral part of the sustainment effort even if no Army tactical formations are committed.

The requirement to support the counter-A2/AD effort calls for the early deployment of echelons-above-brigade (EAB) sustainment units. Since most of these units now reside in the Reserve component, the Army must carefully examine the total force to determine the proper balance required to support the early stages of the A2/AD fight.

At the same time, all of the services will have to reexamine the materiel requirements needed during this phase of the battle. As an example, the need for such items as the MGM-140 Army tactical missile system will be much higher in an A2/AD fight than in Iraq and Afghanistan.

Suppression is far from assured. During Operation Desert Storm, despite U.S. air supremacy and the allocation of hundreds of air sorties, Iraq was able to employ Scud tactical ballistic missiles throughout the ground war. In a similar fashion, the United States was never able to fully suppress actions against its LOCs in either Iraq or Afghanistan.

To cope with this reality, the joint force must adopt a combined strategy of active defense, dislocation, dispersion, and redundancy, which, like suppression, will have a decided impact on sustainment.

Active Defense

Active defense, as used in this article, is the kinetic measures used to

defend the force from A2/AD threats. These measures include integrated air defense to defeat the theater missile threat, naval convoy systems to protect ships from submarine and surface combatants, naval countermine warfare to allow freedom of access to critical ports, and enhanced convoy protection to defeat insurgents and special operations forces.

Each of these measures will significantly affect the sustainment effort. Defense of the theater from ballistic and cruise missiles requires the early deployment of air defense artillery (ADA) and the units required to sustain them, which increases the requirement for ready EAB sustainment units. More significant, however, is how ADA asset availability limits the overall concept of support.

In an A2/AD scenario, instead of being limited to the physical capacity of the infrastructure, LOCs will be limited to places that can be de-

fended. Such limitations narrow the options available to the joint force, restricting the flexibility and speed with which it can be deployed and supported. The requirement for naval convoy operations will delay the arrival of materiel as ships are marshaled into protective convoys, thus increasing the requirement for safety stocks to account for the delays caused by convoy operations.

Keeping a higher level of safety stocks on hand will require additional supply units to warehouse the resulting increase. This will increase the requirement for EAB supply units much earlier in the fight, which will add to the need to reevaluate both the total force and its Active-Reserve mix.

Countermining operations will generally slow down the discharge of cargo and, in turn, require increased safety stocks and more supply units to support them. In the worst case, if countermining operations fail, SPODs may have to be temporarily aban-

doned, driving the joint force to execute a joint logistics over-the-shore operation.

Never the preferred option for the discharge of cargo, joint logistics over-the-shore will further slow the flow of resupply. It will increase the requirement for safety stocks and significantly delay deployment as specialized boats and port support units are deployed to the theater.

The danger to convoys from the threat of insurgents and foreign special operations forces will require the early deployment of dedicated convoy protection assets. Attacks by these hybrid forces may also affect the ability of units in the theater to contract logistics support.

Although contractors have proven effective in Afghanistan and Iraq, they may not be willing to face the danger presented by highly trained special operations forces. They certainly will not be willing to contract their services if protection is not



Chief Warrant Officer 2 Christopher Ravis, a member of the Ohio National Guard Computer Network Defense Team, practices cyber defense operations during exercise Cyber Shield 2015 on March 20, 2015, at Camp Atterbury, Indiana. (Photo by Staff Sgt. George Davis)



Sgt. Scott Swain, right, and Sgt. Ricardo Aquino, both supply sergeants for the 2nd Cavalry Regiment's field artillery troop, defend a hilltop as a 16th Sustainment Brigade logistics supply column passes by during exercise Saber Junction 15. (Photo by Capt. Henry Chan)

provided. In either case, the threat to convoys operating on the LOCs will require more units earlier in the flow.

Dislocation

Supplementing the first two approaches is the passive strategy of dislocation. The threat of long-range ADA systems and tactical ballistic missiles will force the dislocation of strategic airfields, bases, and ports to points farther from the zone of conflict.

For example, The S-400 air defense system recently sold to China by Russia will allow China to strike aerial targets anywhere on the island of Taiwan or in North Korea. The system will also be able to reach targets as far away as India, Vietnam, and South Korea.

To cope with such threats, APODs and flight corridors will need to be displaced farther from the zone of conflict, extending the LOCs. The presence of tactical and ballistic missiles will have a similar impact on the sustainment enterprise. The dis-

placement of APODs, SPODs, and supplies out of range of these missiles will require larger and earlier deployments of EAB transportation units to support the LOCs.

Dispersion

Another passive strategy to deal with the A2/AD threat is the dispersion of both units and materiel. This affects the sustainment enterprise in two ways. First, combat commanders will seek to minimize risk to the force by distributing combat formations over a larger area. Instead of one air base with multiple squadrons, multiple air bases will have one or two squadrons.

Second, instead of having a large concentration of materiel in one place, as seen in Iraq and Afghanistan, materiel will need to be dispersed into smaller, more numerous groups to avoid catastrophic loss. Loss of economy of scale caused by both of these strategies again requires the earlier deployment of a larger number of EAB sustainment units.

Redundancy

Finally, to cope with the A2/AD threat, the sustainment enterprise must build greater redundancy into its operations. Against a determined, capable A2/AD adversary there will inevitably be losses and delays. Even with our best efforts, interruption of the distribution chain will be inevitable. The sustainment enterprise must increase safety stock quantities at both the unit and wholesale levels to ensure uninterrupted support of combat operations.

For example, brigade combat teams (BCTs) might be required to subsist for days without resupply because of losses of materiel or disruption of the distribution system at the wholesale level. To counter this danger, the amount of materiel carried by the BCT will have to be increased to allow for these periods of isolation.

Increased redundancy requires the deployment of more sustainment units earlier to manage the increase in safety stocks. It also requires an increase in the number of sustain-

ment assets in the combat units to transport and manage the additional materiel needed to cope with the A2/AD environment. This is the exact opposite of the Army 2020 redesign in which internal sustainment capabilities in the BCTs are significantly reduced.

Effects on the Enterprise

The total impact of all A2/AD countermeasures on the sustain-

ment on early deploying Reserve units to support the increased requirements. Resourcing, training, and legal challenges inherent in the early mobilization of the Reserve make this an uncertain strategy requiring a careful relook at the type and number of Active sustainment units.

Second, the Army must reconsider the logistics staying power of its combat formation in light of the A2/AD threat. Even with our best efforts, dis-

This is especially true of the assumptions we make about the sustainment enterprise's mission command systems. Effective cyberattacks against our networks will eliminate much of the efficiency in asset visibility and order processing that we have come to depend on. The Army must be prepared to operate over an isolated or fragmented system in which units will have to continue sustainment activities with only limited information.

Even given the security of our network, the sustainment enterprise will have to refocus its training to account for a more distributed environment with much longer, more dangerous LOCs that are subject to interdiction. It will make the distribution of support a constant challenge.

There is no question that A2/AD is real and has the potential to cripple the joint force through asymmetric means. Given that, the joint force and the sustainment enterprise are hardly powerless in the face of the threat. Using a combination of suppression, active defense, dislocation, dispersion, and redundancy, the sustainment enterprise can counteract many of the impacts of A2/AD, but not without significant changes to how the force is structured and how it operates.

These changes will include increases in the total number and readiness of sustainment units, increases in the inherent capabilities of combat units to support themselves without constant resupply, and changes in how we train and plan for operations. Without these changes, the Army may find itself facing the nightmare scenario of being unable to deploy, reinforce, or support itself and the joint force.

Samuel R. Bethel is a retired Army colonel and an associate professor of logistics and resources operations at the Command and General Staff College at Fort Lee, Virginia. He has a master's degree in logistics management from the Florida Institute of Technology and is a graduate of the United States Army War College.

"Finally, to expand its ability to rapidly place U.S. land forces anywhere in the world, the Army must develop tactics and procedures that incorporate the emergent presence of anti-access and area-denial threats."

*—The Army Vision:
Strategic Advantage in a Complex World*

ment enterprise requires significant changes in our current operations and force structure.

First, the A2/AD environment will call for significantly more EAB sustainment formations earlier to support the A2/AD fight, manage a significant increase in safety stocks, and cope with longer, more dangerous LOCs. These requirements necessitate an increase in the availability and readiness of EAB sustainment units currently found mostly in the Reserve component.

To address these challenges, the Army will have to increase the number of EAB sustainment units available and reexamine the current balance of Active and Reserve forces. Recent changes under Army 2020, such as the establishment of combat sustainment support battalions dedicated to BCT support, have led to an Active structure with few Active logistics units available to provide the increased general support or support to nondivisional units required in an A2/AD environment.

This leaves the joint force depen-

ruption of the distribution chain is a real possibility. To ensure continuity of effort, combat units must be able to subsist for extended periods of time without resupply. This requires significant logistics capability built into each combat unit.

Current force structure changes under Army 2020, such as the removal of significant fuel, water, and transportation capacity, make the BCT more, not less, dependent on the distribution system. The Army should reexamine its combat units' current logistics capabilities to make sure they are able to operate in an environment where the distribution of materiel cannot be guaranteed.

Finally, the Army must refocus its sustainment training and planning activities to account for the A2/AD environment. Counter-A2/AD strategies such as suppression, active defense, dislocation, dispersion, and redundancy are not revolutionary, but they do require a different mindset than the more permissive sustainment environment that we have been accustomed to since World War II.

Insights From Training With the Transportation Industry

■ By Capt. Ashian M. Izadi

The Training With Industry (TWI) program benefits Army logisticians because it introduces Soldiers to the different aspects of industry, particularly those necessary to understanding how industry benefits the Department of Defense.

Prior to arriving at my TWI assignment with Landstar System, Inc., I wondered how I, as company-grade officer, would benefit from spending a year with industry. Now having finished the assignment, I find myself reflecting on my experiences and understanding the value of this unique opportunity.

I have learned several things about the commercial trucking industry that will help me as a Soldier. But most of all, I have been empowered with a new perspective on industry that will be of value as I continue to serve in the Army.

A Change in Perspective

Before my TWI experience, my exposure to industry was limited. I had been assigned to a few military transportation units, including some that used commercial contractors to move equipment and supplies.

As an Army logistician, I often wondered why we relied on commercial industry to accomplish our distribution mission. Since our mission affects national defense, relying on someone else to get the job done did not seem like a best business practice.

Now, having been exposed to industry and a larger scale of distribution, I understand why the military uses commercial resources to move government equipment and supplies.

A Matter of Capacity

Logisticians cannot move everything the military requires because the de-

mand is far greater than the military's internal capacity. Owning, operating, and maintaining a fleet of transportation assets large enough for the military to move its own equipment would be too expensive.

Commercial carriers have the capacity that the military lacks. So by contracting for the movement of military freight and using a vast network of commercial transportation assets, the military can invest its resources in other areas. Therefore, partnering with industry to move military freight is good business.

Risks Versus Rewards

Commercial capacity cannot always be guaranteed without price variations; the price is subject to market conditions. The commercial trucking industry is made up of hundreds of thousands of carriers. Carriers must ensure that they comply with government laws and regulations, that their operating costs are covered by their pricing, and that they are competitive with other companies in order to ensure they stay in business. All these variables affect the price.

Logisticians must keep in mind that a low price may equate to poor service. You generally get what you pay for. Nonetheless, because the military requires special services to move its freight, particularly sensitive cargo like ammunition or technologically advanced equipment, the cost for military freight may be more expensive to move than less complex commercial freight.

Since all shippers, commercial and military, must use the same network of transportation assets, they compete with each other for those assets. Thus, prices may vary because of supply and demand. In essence, the military could

compete for transportation assets with potato chip companies if potato chip companies were willing to pay more to move potato chips than the military pays to move a tank. Although this is an extreme example, it gets to the point that all shippers compete for the same assets.

The constant in regard to the availability of truck capacity is that, like the economy, conditions will always change. However, what will not change is our need to use commercial transportation companies to accomplish our mission.

A successful partnership with industry is needed to accomplish the military's transportation mission. Because of my TWI experience, my new perspective is that the military services must find ways to improve business practices (through detailed planning, accurate forecasting, and communicating requirements in a timely manner) to compete with commercial businesses using the same limited transportation resources for their distribution needs.

By seeing and experiencing the perspective of "the other side," I have a new understanding that encourages me to seek solutions that foster successful, critical partnerships with industry.

Capt. Ashian M. Izadi is the operations officer for the 598th Transportation Brigade in Sembach, Germany. She was a training with industry fellow with Landstar System, Inc., in Jacksonville, Florida, when she wrote this article. She holds a bachelor's degree in management from the United States Military Academy and is a graduate of the Transportation Basic Officer Leader Course and Combined Logistics Captains Career Course.

The 3rd Squad, 2nd Platoon, 523rd Horizontal Engineer Company, 84th Engineer Battalion, 130th Engineer Brigade, 8th Theater Sustainment Command, stands during a ceremony after winning the 84th Engineer Brigade Best Squad Competition at Schofield Barracks, Hawaii, on Oct. 16, 2015.



What Makes a Good Leader?

■ By Lt. Gen. Robert S. Ferrell



“We want leaders that are tough, resilient, that can think and out-fight and out-smart the enemy. We want them to be adaptive, agile and flexible. And we want them not only competent, but we want leaders of character.”

Gen. Mark A. Milley, 39th Chief of Staff of the Army

Army leaders should make a daily commitment to do the right things, develop the right foundational leadership traits, and understand today's complex, expeditionary environment.

There are few topics that are simultaneously as ancient and as modern as the topic of leadership. In our Army, the elements of effective leadership are infused in much of our training, doctrine, tactics, techniques, procedures, and even daily conversations. Despite the extraordinary attention the Army—and many other institutions in our society—pays to the subject of leadership, the answer to the question, “What makes a good leader?” is neither simple nor universal.

Nonetheless, certain foundational leadership traits have proven themselves over time, particularly for those who have accepted the unique responsibility to lead Soldiers and Army civilians. We should take every opportunity to remind ourselves of these traits because they emerge from our commitment to a common set of Army values.

The 39th chief of staff of the Army, Gen. Mark A. Milley, aptly stated that the traits we seek in today's Army leaders include agility, adaptability, flexibility, mental and physical resilience, competence, and most importantly character.

Character is often demonstrated in how closely our actions, decisions, and relationships adhere to Army ethics and values. Competence is developed over time through rigorous practice, professional learning, and a commitment to excelling in every aspect of our duties. It is vital that Army leaders have both character and competence.

In fact, the development of competence, character, and other leadership traits is one of the most important missions we have as an Army. Leadership is taught from the day Soldiers arrive at basic training and continues at the basic officer leader courses, at training rotations at the combat training centers, and at the Army War College and other advanced schools.

Timeless Tips and Leadership

As important as formal training is to developing good leaders, effective leadership is something that has to be practiced in our day-to-day actions. As a result, good leadership is not only about learning overarching leadership

principles; it is about doing the right things, large and small, dozens of times each day for your Soldiers, Army civilians, and command. In this way, good leadership becomes a habit that is hard to break.

So, what are the right things that good leaders turn into daily habits? They include the following timeless practices:

- Always treating people with dignity and respect.
- Earning and building the trust of your Soldiers, civilians, peers, families, leaders, and the public.
- Setting the highest standards and holding yourself and everyone in your organization accountable for maintaining them.
- Communicating horizontally and vertically, openly, transparently, and continually.
- Mentoring, evaluating, and recognizing your team members honestly and fairly.
- Reading and reflecting on the Army profession, your branch, your organization, and your mission.
- Maintaining balance by devoting time to your family and community.
- Having fun by embracing your responsibilities with enthusiasm and optimism.

Good leadership is often built by practicing each of these actions until they turn into habits your Soldiers and civilians will come to expect.

The Operational Environment

In addition to developing foundational leadership traits and practicing the right daily habits, today's Army leaders confront an incredibly complex and rapidly changing environment. The U.S. Army Operating Concept: Win in a Complex World and the new Army Vision describe this globally interconnected environment. Its dangers range from the threats posed by an array of nonstate actors to “hybrid threats” that incorporate elements of state and nonstate capabilities to rising national powers that challenge U.S. interests and the international order.

The Army Vision and Army Operating Concept also remind us of the strengths that Army leaders and our forces provide in support of our nation's defense. For example, we have the most combat-experienced force in our history. Many of our emerging senior non-commissioned officers (NCOs) and officers have spent most of their Army careers in support of operations in Iraq, Afghanistan, and related theaters.

As these theaters matured, many Soldiers became accustomed to extensive resources, funding, and deployed contractor support. Now leaders confront an environment where resources are scarcer and must be managed with maximum efficiency. Matching mission requirements with the efficient use of resources will be a critical mindset that today's leaders must develop.

In addition, as our Army becomes increasingly expeditionary, today's leaders must develop unique skills and capabilities to train their units for rapid deployment to austere locations across the globe. This approach places a premium on those foundational leadership traits previously mentioned: agility, adaptability, flexibility, resilience, competence, and character.

With more of the Army based at continental United States locations, expeditionary maneuver will be the norm. Units at all levels must be more mobile and agile, leave a smaller footprint, and have greater endurance and adaptability. Lower echelons will require freedom of action to develop the situation, and bottom-up input will be as important as top-down guidance.

This operational complexity and diversity are the new standard for Army engagements. Whether the primary mission is combat, humanitarian assistance, or something else, great leaders must be prepared for and able to accomplish their objectives in these demanding conditions.

Mission Command and Leadership

In addition to our complex, expeditionary environment, the Army is developing leaders to exercise mission command through synchronized training, education, and assignment

opportunities. Mission command is the foundation for current and future Army operations. It is both a philosophy and a warfighting function based on specific principles.

These principles include having leaders that can provide clear intent, create shared understanding, build cohesive teams, exercise disciplined initiative, encourage Soldiers to take prudent risk, trust subordinates to make sound decisions, and use mission orders that focus on what to do and why rather than how the order is to be carried out.

Making the mission command philosophy and warfighting function a reality will require a network that connects our Soldiers, platforms, and formations from the home station to the tactical edge of the battlefield. As the Army's chief information officer/G-6, I am particularly interested in the impact of information systems and technology on our leaders.

Accordingly, to better support our expeditionary approach and mission command philosophy, the Army is establishing home station mission command centers (HSMCCs) at key commands and installations. These HSMCCs have a suite of standardized capabilities that take advantage of advances in network capability, telepresence, and remote collaboration.

HSMCCs eliminate many of the limitations imposed by distance and make the physical proximity of command posts to one another less important. HSMCCs provide Army leaders the flexibility to deploy command posts in a scalable, tailorable manner according to operational requirements.

Technology and Leadership

As we build capabilities like HSMCCs and modernize the Army network, our objective is to employ information technology in ways that provide Army leaders situational understanding, access to Army and joint enterprise resources, and the right information at the right time in any environment and across all types of operations.

Our emerging cadre of NCOs and officers are well-suited to maximize the

advantages that uninterrupted mission command and expanding network capabilities will bring to our force. That said, tomorrow's leaders must also be skilled at managing the substantial flow of information that advancing technology makes possible.

In today's Army, information can flow from a deployed squad to the Pentagon in seconds. This creates both opportunities and challenges. It places more information than ever in the hands of our Soldiers, enabling them to bring all of the Army's resources to bear on their mission.

It also creates the challenge of providing too much information or not the right information and overloading a leader's ability to understand, direct, and command the unit. As a result, managing information effectively and identifying critical information requirements from a large volume of data will be increasingly important skills for good Army leaders.

Answering the question, "What makes a good leader?" involves all the above and much more. It is likely a question that will never be fully answered. For leaders in our Army, what is more important than finding the right answer is the daily commitment to doing the right things, developing the right foundational leadership traits, and understanding the complex, expeditionary environment in which we operate.

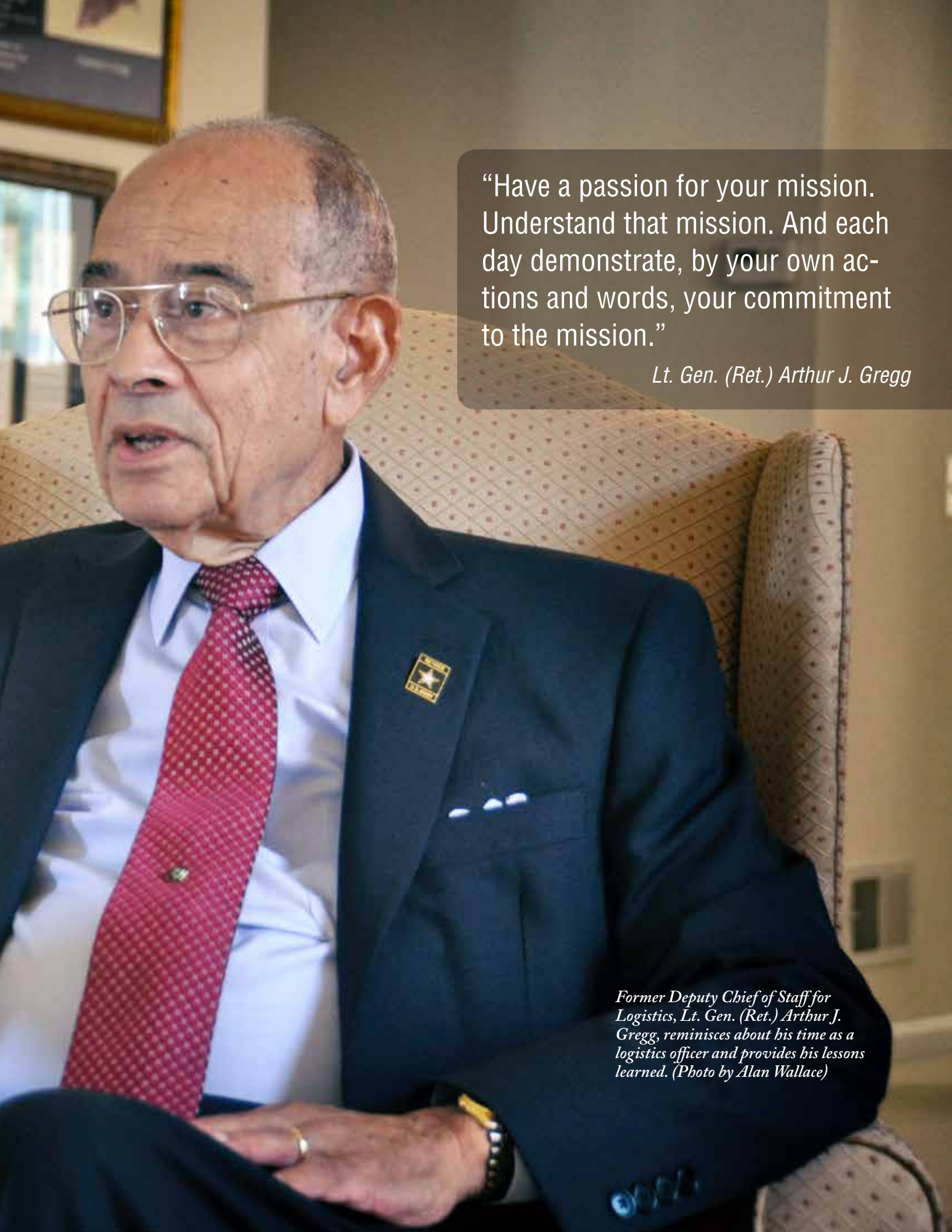
Given all that this generation of NCOs and officers has accomplished in the last 15 years of conflict, I am confident that we are building a cadre of exceptional leaders to take our force to 2025 and beyond.

Lt. Gen. Robert S. Ferrell is the Army's chief information officer/G-6. He enlisted in the Army and attained the rank of sergeant before being commissioned as a Signal Corps officer. He has a bachelor's degree from Hampton University, a master's degree in administration from Central Michigan University, and a master's degree in strategy from the Army War College.



Leadership Lessons From a Former Logistics General

■ By Tom Johnson and Arpi Dilanian



“Have a passion for your mission. Understand that mission. And each day demonstrate, by your own actions and words, your commitment to the mission.”

Lt. Gen. (Ret.) Arthur J. Gregg

Former Deputy Chief of Staff for Logistics, Lt. Gen. (Ret.) Arthur J. Gregg, reminisces about his time as a logistics officer and provides his lessons learned. (Photo by Alan Wallace)

FEATURES

Having been a logistics officer during the Korean and Vietnam Wars and throughout the 1970s, Lt. Gen. Arthur J. Gregg provides his insights on leadership and the changing field of logistics.

Retired Lt. Gen. Arthur J. Gregg is one of the Army's great logistics leaders of the 20th century. Gregg entered the Army as a private in 1946 and rose through the ranks to become a three-star general. He retired in 1981 after serving as the Army's deputy chief of staff for logistics.

Gregg is well-known for exercising strong leadership without being a tyrant. During his career, he empowered his chain of command and was quick to recognize and reward excellence. We sat down with Gregg to get his views on leadership and to find out the lessons he learned while in the Army.

What is your philosophy on leadership, and in your opinion, what makes a great leader?

My philosophy is very simple and straightforward. I think a leader must always put the mission first and put himself or herself last.

A good leader strives to understand the mission and solicits the help of others in devising the best means of accomplishing the mission. A good leader always encourages and supports team members and becomes their cheerleader. Members of the team must always know that the leader is out there every day pursuing the mission with a passion and supporting their efforts and recognizing their good work.

What leadership lessons did you carry throughout your career?

I think certain things are expected from noncommissioned officers [NCOs], junior officers, and the most senior officers. You must perform in each assignment to the very best of your ability. And to do that, you have to understand what your mission is and have a good idea of what you need in order to execute the mission. You also have to influence others so that they join with you in developing a passion and drive to complete that mission successfully. No matter your

position, I think those same characteristics, those same motivations, will allow you to be successful and to have a successful team.

When did you know you wanted to serve in the military and why?

During my high school years I was in Newport News, Virginia, and there was a heavy presence of the military there. I was impressed, especially by all those NCOs with all of their stripes and then, of course, the commissioned officers. I liked their demeanor. Their personal conduct was just wonderful and fun to emulate. During that time, there were many movies that depicted the military and the splendor of doing the nation's duty. I left those movies with a high sense of patriotism, and from those experiences, I decided I wanted to be a Soldier.

What was one of your most rewarding early assignments?

From 1950 to 1953, I was an instructor at the Quartermaster Leadership School at Fort Lee, Virginia. I taught leadership and methods of instruction to junior enlisted Soldiers and officers and prepared them for assignments to the training companies of the regiment. We produced outstanding young leaders.

You were a battalion commander in Vietnam. How did that go?

When I reported to the [96th Supply and Service] Battalion in January 1966 at Fort Riley, Kansas, the unit was not ready to perform its mission and had serious deficiencies in all areas—personnel, equipment, and training. We received excellent support from the Army in getting personnel and equipment and were able to deploy on schedule.

We arrived by ship in Vietnam in May 1966. We worked with civilian contractors to build warehouses and unstuffed containers of repair parts and other supplies. Concurrently, we

started to automate our supply base using an early computer, the NCR 500. Initially operations were slow-going because we lacked experience in using the computer.

Our battalion grew from 500 to 3,600 to become one of the largest in the Army with 18 companies and eight detachments. Our mission also grew and included all aerial delivery, aerial delivery depot capability, bakery, and graves registration.

You served during racially turbulent times. Can you discuss that, and was it a problem in Vietnam?

During the early years, from 1946 to 1950, the Army was segregated, so assignments, promotions, and other opportunities for African Americans were limited. President Harry S. Truman signed the executive order to integrate the Army in 1948. But not much happened to change the Army until the Korean War in 1950. Then the need for manpower accelerated the integration of the Army, but that process was not completed until about 1952.

At Fort Riley, [as an African American] I was not able to get a haircut on post. I had to go into town to get a haircut. When I reported to duty at Fort Lee, I was assigned to an all-black company as an assistant platoon leader because there was no other assignment available. One could make the argument that if I had been a platoon leader rather than an assistant platoon leader that I would have developed more rapidly, and that may have been true. But I had the good fortune of being the assistant to an outstanding platoon leader who was much older and more experienced than I was, and I learned a great deal from him.

In Vietnam, we did not have one racial incident in our battalion during the time that I was in command. And there were several contributing factors: We had good leadership all the way down to the squad level, our officers and NCOs were out there every day and every

night with the troops, and the command climate was very healthy. The demands of our mission also contributed; we were busy 24/7.

What were some of the biggest issues leaders faced back then?

Discipline was a challenge. We were getting young recruits through the draft system. Our Soldiers tended to stay in one unit for a relatively short time. There was a tremendous amount of turnover. Deployments to Vietnam were frequent and many of them were repetitive assignments.

Then we had the introduction of drugs, and that played a major role beginning in the late '60s. One might ask why we saw a spike in drugs. You have to remember that the Army will always reflect society at large. We were drafting young men into the Army during that time who had experienced drugs before coming into the Army.

As a result of the rapid rotation, the introduction of drugs, and a decline in public support for the Vietnam War, discipline slipped. We started to have some serious discipline infractions, and that did not change dramatically until the '70s.

What do you feel is the biggest difference between the Army of today and the Army in which you served?

You have a higher degree of automation today. And this is especially important in the logistics community. You have information available to you at the click of a button that we simply did not have during my time. You are able to do more with fewer people now.

The constant is great leadership. The logistics community, going back to the very beginning of our Army, has been blessed with people like Nathanael Greene and others. That great leadership continues today with Gen. Dennis Via, commander of the Army Materiel Command, and Lt. Gen. Gustave Perna, the Army G-4.

I also think the command sergeants major today play a bigger role than they did during my time. When I was the G-4 of the Army, I did not have a command sergeant major. There was not a slot for one. And today, I see the sergeant major playing a bigger-than-life role, and that's true throughout our Army.

What nugget of wisdom would you offer to current and future leaders?

Have a passion for your mission. Understand that mission. And each day demonstrate, by your own actions and words, your commitment to the mission. Also demonstrate your appreciation for your team and their efforts and accomplishments.

It is also important that we maintain public trust. I'm so proud that when you look at all of the professions of our country today, the military is on top in terms of trust.

This spring the Army will present the inaugural LTG (R) Arthur J. Gregg Sustainment Leadership Award, a new honor that recognizes Soldiers and civilians whose leadership is credited with making significant and measurable contributions by improving operating efficiencies and readiness levels or demonstrating fiscal responsibility. The first recipient is the award's namesake.

Tom Johnson is transportation planner from the Military Surface Deployment Distribution Command and is currently on a one-year training assignment at the Army G-4's Strategic Mobility Division. He holds a master's degree in business administration with a concentration in project management from Columbia Southern University.

Arpi Dilanian is a strategic analyst in the Army G-4's Logistics Initiatives Group. She holds a bachelor's degree from American University and a master's degree from Rensselaer Polytechnic Institute.





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ITEMS?

Adam Stoffa, a lawyer with U.S. Army South, explains the legal aspects of the supervisor-civilian employee relationship during a supervisor development course held at the Army South headquarters on Oct. 27 and 28, 2015.

Developing Leaders in the Army Civilian Corps

■ By John E. Hall

FEATURES

The Army has established programs to grow civilians into confident and high-functioning leaders.

I am a member of the Army Civilian Corps. The Army Civilian Corps was established in 2006, formalizing a 230-year record of service as a critical component of the total Army force structure. Army civilians serve in all theaters and are deployed worldwide in support of the Army mission. As the Army's missions have evolved and become more complex, so have the roles of Army civilians.

The Army Operating Concept drives how future Army forces operate to accomplish campaign objectives and protect U.S. interests. The vision for the future must drive change to ensure Army forces are prepared to prevent conflict, shape the security environment, and win wars.

Army civilians serve as a vital part of the Army team to support the defense of our nation. We are trusted to make decisions that produce high-quality results by applying technical knowledge and managing human, financial, and information resources, while operating and accomplishing objectives in unknown, unknowable, and constantly changing environments.

Developing Civilians Is Different

A trained and ready Army will always require leaders who are professionals in every way—leaders who exemplify traditional Army values and professional ethics. The Army of the 21st century relies on top quality civilians in professional, technical, and leadership positions to provide continuity of operations and expertise essential to national defense.

The Army's civilian component and uniformed component operate under different systems of legislation, regulation, and policy. Generally speaking, the uniformed component's intake, promotions, training, and leader development are mandated, centralized, and structured.

In comparison, civilian talent management decisions to hire, compete for promotion, and seek self-development and leader development opportunities

are less structured and more decentralized. They rely on the employee in most cases to take the initiative to seek such opportunities.

The uniformed policy of "up or out" forces Soldiers to get the necessary ticket punches to advance or else they will be passed over for promotion and ultimately released. Civilians, however, can stay in the same position at the same grade level for an indefinite period of time.

So civilians who want to advance and compete for higher level positions of responsibility must take it upon themselves to take advantage of the opportunities provided. To be clear, those opportunities are there, available, and accessible to those who take the initiative to seek them.

Additionally, in today's Army, many civilians are former and retired Soldiers like I am. They bring 20 or more years of leader development to the table when they are hired, having already benefited from formal uniformed service leader development opportunities, including senior service college.

So, in order for a career civilian to compete on a level playing field, they must seek opportunities, establish a mentor network, and obtain all levels of formal training and developmental opportunities. Civilians seeking to advance must view opportunities as invitations and should "refuse no invitation" in order to remain competitive in the Army market.

Civilian Leader Development

The Army's civilian leader development program is aimed at creating a cohort of Army civilians who are knowledgeable leaders, collaborators, and innovators. The Army has invested significantly in developing the leadership skills of its civilians to provide more professional, capable, and agile civilians who can lead during times of change and uncertainty.

Army civilians are equipped with the values, skills, and mindset to serve as competent, resilient members of the Civilian Corps. Leader



Civilians from the 19th Expeditionary Sustainment Command participated in a civilian professional development class on July 24, 2015. The class covered individual development plans that align employee training and development efforts with the mission, goals, and objectives of the unit. (Photo by Joel Changhoon Lee)

development is achieved through a combination of training, education, and experience by way of schooling, assignments, and self-development.

The Army has made great changes in establishing programs to grow civilians into confident, high-functioning leaders capable of decisive action. Training opportunities for civilians can be put into the following categories:

- ☐ The Civilian Education System.
- ☐ The Senior Enterprise Talent Management (SETM) and Enterprise Talent Management (ETM).
- ☐ Career program training.
- ☐ Academic degree training.

The Civilian Education System

The Civilian Education System is the Army's leader development program for all civilians. It provides progressive and sequential education for civilians at key points throughout

their careers. Courses are targeted to individuals in specific grades.

The Foundation Course is required for all interns and new Army civilians; the Basic Course is for GS-01s through GS-09s; the Intermediate Course is for GS-10s through GS-12s; the Advanced Course is for GS-13s through GS-15s; and Continuing Education for Senior Leaders is for GS-14s and GS-15s. Additionally, the Action Officer Development Course and the Manager Development Course are open to all Army employees as self-development opportunities.

SETM and ETM

The SETM and ETM programs were developed to allow GS-12s through GS-15s and their equivalents to gain professional, senior-level developmental and experiential learning opportunities. SETM and ETM produce civilian leaders who

can serve in increasing levels of responsibilities with an enterprise perspective.

SETM (for GS-14s and GS-15s) includes the following programs:

- ☐ The Enterprise Placement Program.
- ☐ SETM-Temporary Duty.
- ☐ Senior service college programs.
- ☐ The Defense Senior Leader Development Program.

The Enterprise Placement Program provides permanent placements and details into specially designated, key GS-15 positions. SETM-Temporary Duty is a short-term developmental assignment into a command-nominated project. Senior service college is open to applicants who compete for allocated seats at the Army War College or the Dwight D. Eisenhower School for National Security and Resource Strategy.



U.S. Army South conducts its first supervisor development course on Oct. 27 and 28, 2015, to provide military and civilian managers with the training and information needed to execute their duties and responsibilities as supervisors of civilian employees.

The Defense Senior Leader Development Program is a two-year program that includes a senior service college, leadership seminars, and a developmental assignment. The Army Senior Civilian Fellowship involves postgraduate study. Mobility and continuation of service agreements are required for most of the SETM programs.

ETM (for GS-12s and GS-13s) includes ETM shadowing assignments, ETM-Temporary Duty, the Command and General Staff Officers' Course, and the Executive Leadership Development Program, which is a 10-month series of learning and training experiences.

Career Program Training

Career program training is where Army civilians receive their functional or specialty training. The Army has 31 career programs, and every civilian position is coded into one of the programs based on the requirements

of the position.

Career programs have functional chiefs at the departmental level and a hierarchy of program managers down to the activity level. They offer the technical training required for job proficiency.

Academic Degree Training

Academic degree training opportunities are generally offered through career program channels. All Army employees are eligible except those occupying or seeking to qualify for appointment to an excepted service or senior executive service position.

At the time of application, the candidate must have three years of permanent, full-time employment as an Army civilian.

Leader Development Strategy

The Army Leader Development Strategy, which applies to the four leader cohorts (officers, warrant officers, noncommissioned officers, and

civilians), provides guidance and direction for the Army in developing its leaders by laying out the ends, ways, and means to develop competent and committed leaders. As part of the broad strategy, each functional community has the responsibility to develop the tactical and technical competencies of its leaders.

For those working in one of the logistics fields, the Logistics Leader Development Strategy (LLDS), currently under development, will lay the foundation for how to develop agile, innovative logistics leaders who have the requisite leader attributes, tactical and operational skills, and strategic- and enterprise-level proficiency to thrive in the global environment in which the Army serves.

Although functional development and leader development are different for each of the four cohorts, the goal is to provide an overarching strategy that will continually update the LLDS across all cohorts. This



will ensure the right developmental opportunities are available and all cohorts are able to adapt to changes in the operational and strategic environments while supporting the Army's contribution to winning in a complex world.

The value of the strategy for civilians is twofold: to provide an overarching framework for civilian logisticians to view their role, development, and mission, and to provide expanded developmental opportunities for civilian and military members to participate in common training when appropriate. The strategy ensures that learning outcomes and opportunities for civilians are in sync with those of the military cohorts.

Overcoming Barriers

Like their uniformed counterparts, civilians must be functionally proficient and technically competent leaders. The Army has established civilian training programs; however,

barriers exist that inhibit civilians from taking full advantage of these opportunities.

Unlike much of the required professional military education, civilian leader development is voluntary, is not tied to promotions, and is based on funding. Some leaders are reluctant to approve training outside of the organization because of minimal staffing to meet current mission requirements. Many training opportunities require employees to relocate temporarily or permanently, and some employees are not willing to move for personal or professional reasons.

As leaders, we have to innovate to find ways to overcome barriers even in times of limited budgets and resources. Supervisors should encourage training attendance to foster an environment where employees are deemed more competitive. They should look for ways to establish follow-on assignments that do not require

relocation yet can still meet the ever-changing needs of the Army.

Through succession planning, organizations should recruit superior personnel, develop their knowledge, skills, and abilities and prepare them for more challenging positions to ensure personnel are constantly developed to fill needed roles.

Training and developing employees for leadership positions ensures they are agile and adaptive to adjust to ever-changing requirements. The Army is committed to the development of its leaders. The training and development of the Army Civilian Corps is required to sustain a mission-ready Army.

John E. Hall is a member of the Senior Executive Service and is currently the deputy to the commander of the Army's Combined Arms Support Command and Fort Lee.

Developing the Leaders of Tomorrow in Today's Schoolhouses

■ By Maj. Richard Strong





Staff Sgt. Nicole Brittain, the noncommissioned officer-in-charge of the 213th Regional Support Group's personnel division, works on a personnel report during Exercise Trident Juncture 15 on Nov. 3, 2015, near Zaragoza, Spain. As part of recent initiatives, the Adjutant General School is staying connected to the field by posting videos on YouTube's "U.S. Army Adjutant General School" channel to show operators how to use human resources systems and products. (Photo by Sgt. Daniel Cole)

FEATURES

The Adjutant General School is modifying its curriculum to train human resources Soldiers to be more creative, flexible, and innovative.

The basic requirements and capabilities for leaders to be successful at all levels of leadership are common across all branches, warfighting functions, and components.

The Training and Doctrine Command (TRADOC) oversees 32 Army schools organized under eight centers of excellence, each focused on a separate area of expertise within the Army. Each of those centers of excellence provides blocks of instruction and dedicates time to enhancing basic leadership attributes and competencies and branch-specific training.

However, in order to prepare the next generation of leaders to handle the emerging operational environment, the changing responsibilities of different units (such as regionally aligned forces and surge forces), and the downsizing of the Army, some leadership attributes and competencies need to be emphasized more than others.

Creative and Flexible Leaders

Leaders of tomorrow need to possess critical and creative thinking, flexibility, innovation, and mental agility to assess any situation in which they find themselves. They must isolate and understand the problem at hand and innovatively develop solutions.

One of Gen. Mark A. Milley's three priorities as the 39th chief of staff of the Army is to "do what it takes to build an agile, adaptive Army of the future." He explained in his initial message to the Army, "Developing a lethal, professional and technically competent force requires an openness to new ideas and new ways of doing things in an increasingly complex world."

Revolutionary changes that are within TRADOC guidelines can be made in Army schoolhouses in a relatively short amount of time. The operational environment is changing, and the Army needs to develop leaders who are problem solvers as well as experts in their trades.

Adjutant General Curriculum

One of the most important qualities leaders need for success is to be technically and tactically proficient in their specific areas of concentration or military occupational specialties. The Adjutant General School (AGS) has implemented several changes within its curriculum to produce technical experts and flexible leaders who can think critically.

AGS has developed human resources (HR) validation and certification products, initiated the review and redesign of all professional military education (PME) courses, and strengthened the connection of the schoolhouse to the field. These initiatives allow the schoolhouse to train students to be relevant the moment they report to the operational force and to become enablers for leaders in the field.

Current AGS Initiatives

Over the past 12 months, AGS developed and implemented several initiatives, such as the redesign of the Adjutant General Captains Career Course (AGCCC), HR systems training and qualification, HR gunnery tables, "AGTube," and the Brigade Strength Management Module (BSM2).

To ensure future leaders are prepared for a new type of operational environment, AGS looked at each of the PME courses. The school considered how to redesign them to incorporate more complex battle drills and problem-solving scenarios.

Curriculum needs to encourage students to be flexible and adaptive and help them apply what they have learned to develop solutions that might not be obvious. Leaders of tomorrow need to be aware of their surroundings in order to recognize problems and then think critically and creatively to develop viable solutions.

Many problems can have several solutions that could work, and students need to be able to explain why they decided on a certain solution.

AGCCC Redesign

The redesigned AGCCC requires students to apply more critical thinking and analysis throughout the course. After analyzing AGCCC, AGS found that students were not using any HR systems until almost halfway through the course.

To maximize the time that students are in AGCCC, HR systems training was moved to the beginning so students can develop solid technical systems skills and use those skills throughout the course.

The course was redesigned into a “crawl, walk, run” format in which students are initially introduced to the HR systems, trained on how to use them, and taught the advantages and disadvantages of using each system in different situations.

Familiarization is gained by working through complex scenarios throughout the course and using repetition to develop muscle memory. Students are assessed during the “run” phase at the end of the course, which prepares them for their culminating staff exercise (STAFFEX).

HR Systems Training

In the future operational environment, the S-1, S-1 noncommissioned officer-in-charge, and HR technician may not be co-located. Key personnel within the S-1 section will need to be interchangeable and understand the responsibilities and capabilities of everyone else in the section.

One person should not be the sole expert in any subject. Unfortunately, learning how to operate HR systems is often neglected because the HR warrant officer is considered the expert.

In order to reduce the long lines of people standing outside of chief’s office door and empower more members of the S-1 section to be able to update and retrieve data, AGS developed HR systems training and qualification to train and validate proficiency on HR systems such as the Enlisted Distribution and Assignment System, Total Officer Per-



Sgt. Roger Lopez, right, and Spc. Brandon Vines, both human resources specialists, review postal plans on May 20, 2015, during Iron Will 15 at Vogelweh Military Complex, Germany. In the future operational environment, key personnel within S-1 sections will need to be interchangeable and understand the responsibilities and capabilities of everyone else in the section. (Photo by Sgt. 1st Class Alexander Burnett)

sonnel Management Information System, Electronic Military Personnel Office, Army Human Resources System Enterprise Datastore, and Microsoft Office.

In the same way that Soldiers must qualify on their rifles and grenade launchers, HR professionals need to regularly qualify on HR systems that they use on a daily basis. HR systems qualification is a set number of tasks or questions for each key HR system. Before qualifying on HR systems, students receive detailed instruction and extensive hands-on training on each system.

The intent is not to turn the students into clerks but to grow leaders who are capable of employing HR

systems for maximum coverage on the HR battlefield (in the S-1 or G-1 sections). The end state is to produce HR leaders who are proficient on essential HR systems and capable of solving complex HR problems.

HR Gunnery Tables

HR leaders must be able to recognize their HR systems capabilities in order to employ them and lead on the HR battlefield. HR gunnery tables were developed to apply critical thinking and analyze data within complex S-1 battle drills to solve problems.

The HR gunnery tables use rigorous and realistic scenarios. HR

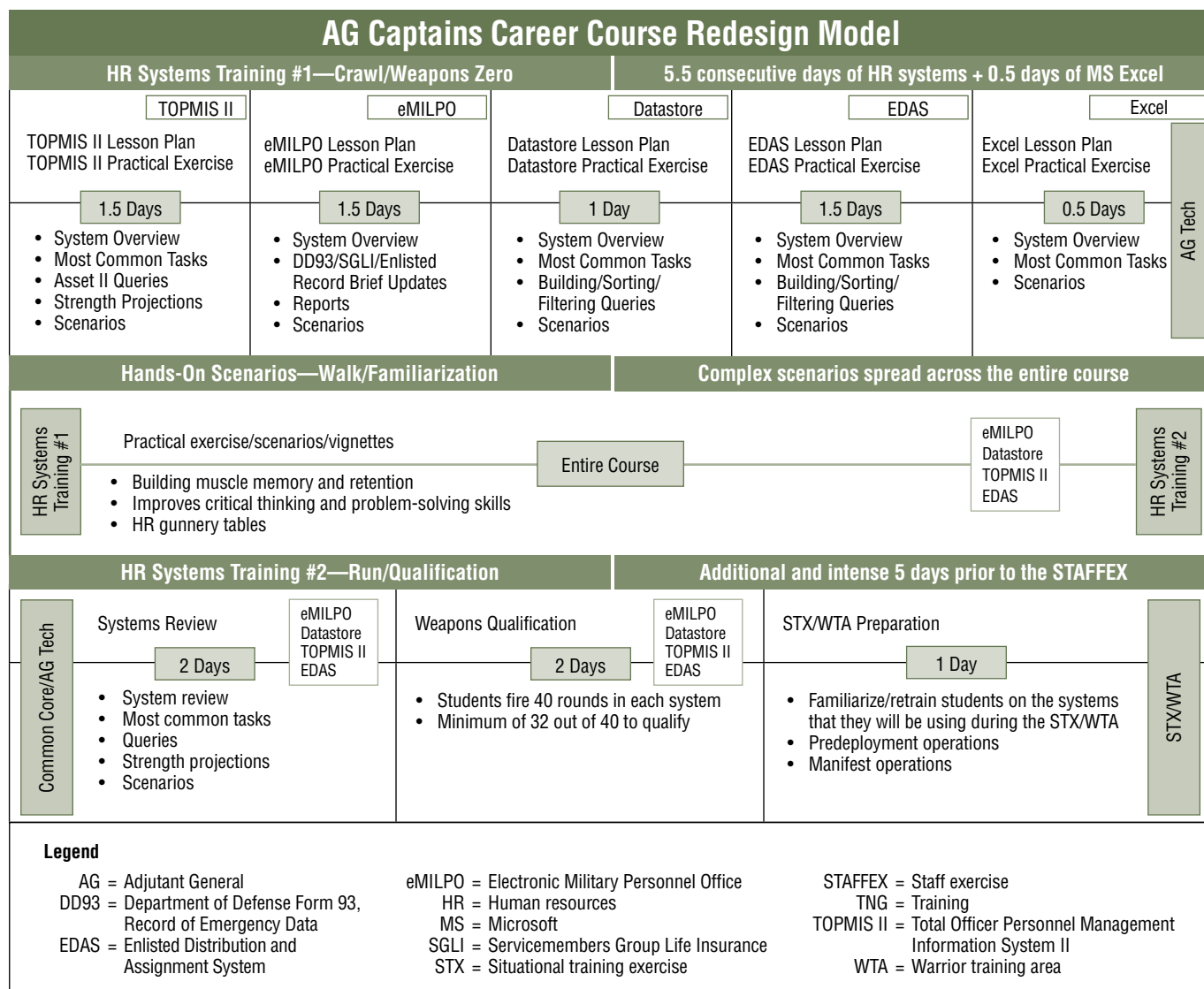


Figure 1. The Adjutant General Captains Career Course redesign model.

leaders can save products from the gunnery tables, such as formatted spreadsheets, slides, queries, and references, and reuse them at their next assignments.

During the HR gunnery tables, the most common HR battle drills, such as unit status reports, HR metrics, casualty operations, evaluations, and promotion list scrubs, are stressed. Problem-solving scenarios are implemented weekly to improve muscle memory and set conditions for HR leaders to make a difference the same day they report to their units.

The STAFFEX

The HR systems qualification and

HR gunnery tables lead up to the culminating training event during the STAFFEX. The STAFFEX simulates a day in the life of an S-1 and incorporates everything the Soldiers have learned throughout the course.

The STAFFEX increases the stress level and requires students to use critical thinking and problem-solving skills to accomplish more tasks than time allows. Students are required to prioritize and innovate to be successful during this event.

AGTube

AGS is staying connected to the field by using current technology to export solutions, receive feedback

from Soldiers, and develop solutions across the Army. To export solutions, AGS posted several videos on YouTube's "U.S. Adjutant General School" channel, which is also called "AGTube."

The channel consists of a series of videos that show HR operators working in S-1 and G-1 sections how to use HR systems and Microsoft Office products to save time and solve common HR problems. AGTube also includes postal operations videos to aid postal clerks in understanding and executing postal procedures.

The videos do not require a common access card login and can be ac-

cessed from any smart device at any time. Soldiers worldwide can access these videos when they have questions about a specific task or battle drill. AGTube supports the Army Learning Model because it blends self-development with institutional training while leveraging the most current technology.

Soldiers in the field provide recommendations and requests for potential demonstrations or videos that could be of value. Using this input, AGS remains current and fills the gap between institutional training and real experience.

BSM2

Another tool created at AGS that benefits the entire Army is BSM2. It is an analytical tool that helps commanders to manage limited personnel resources within the guidelines of the senior commander manning concept and the sustainable readiness model.

BSM2 can save personnel sections countless man-hours by pulling data and turning it into information that commanders can use to make educated strength management and personnel readiness decisions. It serves as the one common tool that all HR operators can use at all levels.

The Way Ahead

While the AGCCC redesign is in the pilot phase, all of the other PME courses are in the redesign planning phase. The courses will be updated to have more hands-on systems training, increased critical and creative thinking scenarios, and more battle drills.

The Basic Officer Leader Course, Warrant Officer Basic Course, Warrant Officer Advanced Course, Senior Leader Course, Advanced Leader Course, and advanced individual training courses will all be redesigned within the next year.

Increasing critical and creative thinking, flexibility, innovation, and mental agility throughout all PME courses comes with risk. Applying this approach to a particular prob-

lem set can generate many different solutions; several will work, some will work better than others, and some will not work at all.

This concept will put a strain on instructors because they will have to determine whether or not a solution is viable. The students need to be able to explain why they chose a solution, but the instructor will determine if that solution could work, even if it is not in the answer key.

The whole point of being more innovative and flexible is to create HR leaders who can come up with better solutions than the ones we are currently using.

This may require a stricter instructor selection process or require instructors to complete prerequisite training and certification before stepping on the platform. AGS has implemented a rigorous instructor training and certification program and will incorporate it into the faculty development program.

Feedback from students and instructors who have gone through the pilot HR weapons qualification, HR gunnery tables, and course redesign has been useful for improving the material.

The increase in HR systems training and the requirement to display critical and creative thinking throughout the course will benefit these students' future units. Exposing HR professionals to these training products between PME attendances will help to boost the knowledge base of the entire field.

One of the most important things AGS is focused on for the future is exporting these products for home-station training and certification. AGS wants to send these training products to all units and combat training centers. Combat training center cadre can use the products to validate and certify HR and postal platoons and S-1 sections.

A commander would not send infantry Soldiers on a deployment or rotation without ensuring that they

were all qualified on their weapons. Yet many HR professionals are still unfamiliar with primary HR systems when they deploy.

The end state is to change the mindset in the field so that commanders realize the importance of incorporating HR training and validation into the long-range training calendar. HR training and validation needs to receive training calendar space that is comparable to the training and validation of Soldiers of all other career fields.

The operational environment and unit responsibilities are constantly changing. How will leaders handle increased responsibilities with fewer resources and personnel? Leaders will be able to accomplish more with less by being more flexible, better at assessing and analyzing situations, and more creative with solving complex problems.

To achieve this goal, institutional courses need to incorporate more critical and creative thinking, flexibility, innovation, and mental agility. TRADOC leaders need to ensure that schools can quickly add, delete, and modify curriculum to stay current and remain relevant with the rapidly changing operational environment in order to allow students to report to their units with the most relevant tools.

The most important outcome of institutional courses should be educated and trained leaders capable of helping commanders at every level as soon as they arrive at their next assignments. The Army needs leaders who require little-to-no guidance and can be trusted to remain adaptive and creatively think of solutions within the commander's intent.

Maj. Richard Strong is the systems integration chief at the Adjutant General School at Fort Jackson, South Carolina. He is a graduate of the United States Military Academy and has a master's degree in human resources management from Webster University.



Great Leaders Know What's Inside the Box

■ By Capt. Howard "Jimmy" Barrow



Capt. Michael Mason, a small-group leader, instructs Logistics Captains Career Course students at the Army Logistics University at Fort Lee, Virginia. Institutional training like this provides the intellectual framework, including a knowledge of doctrine, needed to support purposeful innovation. (Photo by Julianne Cochran)

FEATURES

Doctrine provides the framework needed to create outside-the-box ideas by providing the knowledge that supports purposeful innovation.

Army Doctrine Reference Publication (ADRP) 6–22, Army Leadership, defines leadership as “the process of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization.” Many young Army leaders infer from this definition that leadership requires creativity.

My experience teaching the Logistics Captains Career Course at the Army Logistics University (ALU) at Fort Lee, Virginia, has shown me that junior officers yearn to exercise creativity but often feel stifled. They learn throughout their professional military education that the Army wants critical and creative thinkers, but their experiences do not support that narrative.

Many junior leaders see a dichotomy between reality and the perception of creativity within the Army. Junior leaders desire the opportunity to be creative but feel penalized for exercising innovation. I argue that the Army does want creativity and that great leaders embrace it.

The LRM and Creativity

The leadership requirements model (LRM) in Army Doctrine Publication 6–22, Army Leadership, supports the idea that the Army does encourage creativity. The LRM combines two distinct categories: what a leader is (attributes) and what a leader does (competencies). The leader attributes are character, presence, and intellect. Leader competencies are “leads, develops, and achieves.” Both attributes and competencies require creativity.

The intellect attribute includes mental agility, sound judgment, innovation, interpersonal tact, and expertise. It is during innovation that creativity arises. Creativity, according to ADRP 6–22, is required to produce “original and worthwhile ideas,” “prevent complacency,” and “adapt to new environments.”

Most importantly, ADRP 6–22 states, “To be innovators, leaders rely on intuition, experience, knowledge, and input from subordinates.” Thus, experience influences innovation. Without

experience, innovation can occur by accident, but purposeful innovation demands experience.

Teaching doctrine to new leaders provides the knowledge that supports purposeful innovation. As I am prone to telling my students, you cannot think outside the box until you know what’s in the box.

Why Be Creative?

In their November–December 2009 *Military Review* article, “Developing Creative and Critical Thinkers,” retired Army colonels Charles D. Allen and Stephen J. Gerras state that creative thinking “is a critical element of strategic thought and is necessary for successful leadership of our military.” This statement categorically demands that leaders think creatively.

Great leaders possess the ability to think not only critically but also creatively in order to find success. Allen and Gerras state, “Our enemies will be creative, so we must be, too. Creativity and innovation must inform senior leaders in critically deciding what to do and how to do it.”

To achieve commitment. According to ADRP 6–22, commitment is the willingness to support a cause or organization and, when effectively utilized, encourages “initiative, personal involvement, and creativity.”

Leaders are required to influence others. Effectively committing to achieve influence encourages creativity and supports the mission command philosophy.

ADRP 6–0, Mission Command, states that the mission command philosophy exists to “empower agile and adaptive leaders in the conduct of unified land operations.” Thus, leaders need to support creativity within their formations in order to create agile and adaptive leaders and earn their commitment. Great leaders welcome and enable creativity because they understand the need for commitment.

To develop adaptive leaders. ADRP 6–22 states that leaders must prepare subordinates for positions of greater responsibility in order to develop multi-skilled leaders. Additionally, the mission command philosophy “empowers

agile and adaptive leaders.” Developing adaptive leaders demands “not only warfighting skills, but also creativity and a degree of diplomacy.”

In order to support creativity in an organization, junior leaders need to be developed, and to support junior leaders, creativity needs to be developed.

Is There Support for Creativity?

The notion that creativity is required for success is repeated throughout doctrine, yet officers bemoan that the Army fails to recognize creativity.

In his 2011 *The Atlantic* article, “Why Our Best Officers Are Leaving,” Tim Kane recounts a true story of creativity being recognized in the Army. In World War II, innovative Soldiers developed a hedge-cutting mechanism that attached to tanks to allow troops to traverse the thick hedgerows in northern France.

Kane writes, “It’s a point of pride among officers that the American way of war emphasizes independent judgment in the fog and friction of battle, rather than obedience and rules.”

This example offers anecdotal evidence of the value of creativity but proves insufficient when paired with Kane’s assertion that “during World War II, German generals often complained that U.S. forces were unpredictable: they didn’t follow their own doctrine.”

It appears that our young leaders yearn for a time when creativity seemed to reap rewards. This belief is detrimental to the development of our leaders because it is misguided, inaccurate, and incomplete.

Kane supports the notion that junior leaders do not trust the Army to reward their creativity when he writes that “the Pentagon doesn’t always reward its innovators. Usually, rebels in uniform suffer at the expense of their ideas.”

Kane strengthens his stance that the Army does not prepare its leaders to be creative by quoting Lt. Col. Paul Yingling’s 2007 *Armed Forces Journal* essay, “A failure in generalship.” Yingling writes, “It is unrea-

sonable to expect that an officer who spends 25 years conforming to institutional expectations will emerge as an innovator in his late forties.”

Having taught at ALU for nearly two years, I can attest that my students agree with the notions of Kane and Yingling and have grown disenchanted. Fortunately, a solution exists.

Doctrine and Creativity

Junior leaders need creativity to accomplish missions; great leaders enable that creativity. According to ADRP 6-0, the effective use of mission command “must be comprehensive, without being rigid, because military operations as a whole defy orderly, efficient, and precise control.”

The Army acknowledges that a dress-right-dress approach fails because of the complexity of modern military operations. The Army needs leaders capable of thinking and developing novel ideas to combat challenges in a world where both the enemies and civilians have their own objectives.

The Army touts three concepts to overcome the problems felt by junior leaders: the exercise of mission command, the mission command philosophy, and the mission command warfighting function. The application of creativity focuses on the mission command philosophy.

The Army fosters creativity through effective use of the art of command, the science of control, and balance between the two. As the art of command is “the creative and skillful exercise of authority through timely decision-making and leadership,” it is the road map to being a great leader.

ADRP 6-0 says that great leaders provide thorough and complete intent, which allows subordinates “to adapt to rapidly changing situations and exploit fleeting opportunities.” Additionally, it specifies that junior leaders can, “when given sufficient latitude, accomplish assigned tasks in a manner that fits the situation.”

Great leaders recognize the difference between sufficient and insufficient latitude through the art

of command. The mechanism that enables great leaders to provide the sufficient latitude is the science of control. The latitude afforded to leaders represents the realm in which junior leaders exercise their creativity.

The key is that great leaders provide sufficient latitude, not carte blanche to accomplish missions. After all, thinking outside the box still has parameters. While that may be a sticking point for some, most students who come through ALU are not asking for free rein. They want the opportunity to take ownership of their roles and responsibilities. The oversimplification is that junior leaders want their superiors to identify left and right limits and then allow them to act within that range.

Great leaders welcome and enable creativity. They demonstrate creativity to accomplish their missions. They possess the ability to think critically and creatively in order to find success. Great leaders find the latitude that each situation demands and foster an atmosphere conducive to original thought. That atmosphere must be based on the creation of purposeful innovation, which means that great leaders must provide their subordinates with experience.

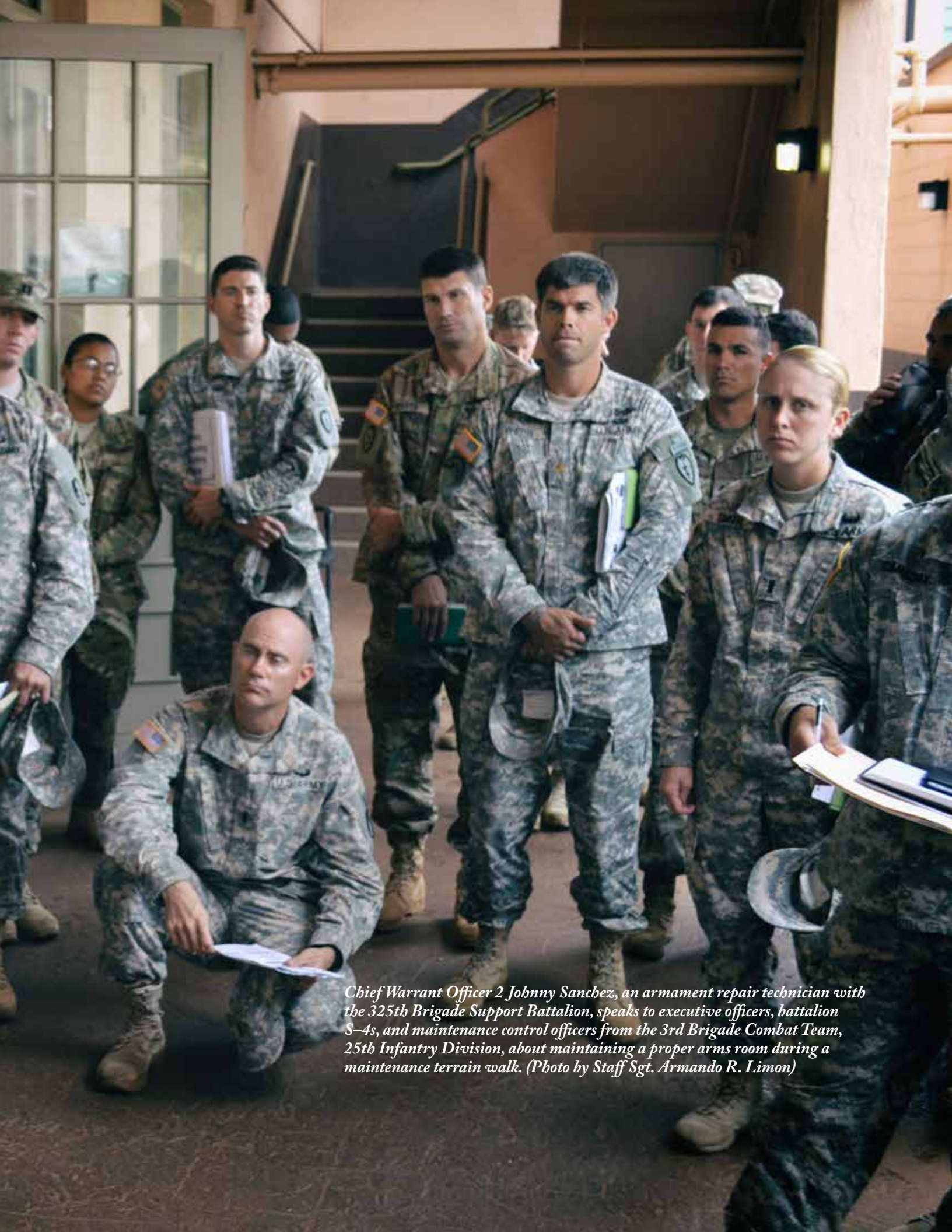
As providers of professional military education, the instructors at ALU give junior leaders the backbone of experience through doctrine and historical examples. I like to think that, to borrow my own expression, we give them the box.

Capt. Howard “Jimmy” Barrow is a senior team leader for the Logistics Captains Career Course at the Army Logistics University at Fort Lee, Virginia. He holds bachelor’s degrees from Florida State University in history and English (creative writing) and a master’s degree in management from the Florida Institute of Technology. He is a graduate of the Combined Logistics Captains Career Course, Naval School Explosive Ordnance Disposal, and the Transportation Officer Basic Leader Course.



Building Leaders and Readiness Through the Maintenance Terrain Walk

■ By Chief Warrant Officer 4 Alexander W. Taylor



Chief Warrant Officer 2 Johnny Sanchez, an armament repair technician with the 325th Brigade Support Battalion, speaks to executive officers, battalion S-4s, and maintenance control officers from the 3rd Brigade Combat Team, 25th Infantry Division, about maintaining a proper arms room during a maintenance terrain walk. (Photo by Staff Sgt. Armando R. Limon)

FEATURES

The preparations units make to host maintenance terrain walks lead to lessons learned that improve overall unit readiness.

Since World War II, Army generals have been inspecting, evaluating, reviewing, and monitoring our Army's equipment and logistics support processes through maintenance terrain walks (MTWs). As a young automotive maintenance warrant officer, I had my first MTW in the fall of 2002 while I was the maintenance officer for a medium transportation company (palletized load system) task organized under a combat service support battalion.

It has been 13 years since that MTW, and I have not been a part of another one since. What happened to this key leader development opportunity? Did the ongoing war on terrorism stymie the MTW for so long that its benefits as a leader development tool have been forgotten?

To remain a relevant and premier combat force, our leaders must ensure our Army has the best equipment readily available for the fight. The chief of staff of the Army has made readiness his top priority. I submit that the MTW should again become a key evaluation and developmental tool. Brigade combat teams Army-wide should incorporate MTWs into their training calendars to improve the readiness of their equipment and their leaders.

What Is an MTW?

Some leaders in our combat formations would define an MTW as an evaluation of the commander's ability to conduct maintenance and sustainment operations over an extended period of time. This is not exactly the purpose of an MTW. Although the commander is responsible for maintenance, maintenance is every leader's responsibility.

The MTW is a tool to help build the knowledge base of our leaders in maintenance and sustainment operations. No matter how well a unit is trained to execute its tactical mission, it cannot expect to fight and win on the battlefield without maintaining its equipment.

Maintenance and training exist together; both are critical to mis-

sion success and Soldier survivability. The leader development process begins once this vision and command emphasis is established. The MTW itself is merely a visit by the division's senior logistician that concludes months of training and readiness.

Where Is the Gap?

The commander has overall responsibility for anything that occurs in an organization. So why hasn't this process been taught in the numerous schools that officers, warrant officers, and noncommissioned officers attend throughout their careers? Because, despite its longtime use, the MTW is not found in doctrine.

There is a movement in the sustainment community to include it in doctrine. Several divisions throughout the Army have written the MTW into their standard operating procedures in order to define its purpose, determine a governing authority, and assign responsibility for each step of the process.

MTW Planning

The planning for an MTW begins at the senior operational level. Normally the officer in charge of the planning is the deputy commanding general for support or sustainment (DCG-S) on a division staff. Through the operations process, the DCG-S alerts the division G-4 to identify and alert the organization that will be required to host the MTW. The G-4 then puts together a criteria sheet for the DCG-S to establish the left and right limits of the MTW.

The division G-4 must also provide the MTW host with a template outlining direct guidance from the commander, the leader development opportunities that will occur through in-progress reviews (IPRs), and the maintenance program enhancements or developments expected.

MTW Preparation

The organization hosting the MTW will receive an operation order along with any annexes that will help



Brig. Gen. Patrick Matlock, the 25th Infantry Division deputy commanding general for support, speaks to 3rd Brigade Combat Team executive officers, S-4s, and maintenance control officers participating in a maintenance terrain walk for leader development on Oct. 15, 2015. (Photo by Staff Sgt. Armando R. Limon)

identify the focus areas of the MTW. The MTW host will use this information to create a checklist or agenda that will guide the unit through the process and identify what the DCG-S will be looking at.

The agenda outlines the places and points of interest on which the MTW will focus. These points of interest include facilities, personnel management, equipment readiness, environmental compliance of maintenance facilities and arms rooms, and training that supports the organization's maintenance program.

The unit's operations officer will plan backward from the date of the MTW through the date that the order was received. The bulk of MTW leader development will be experienced through lessons learned from planning for the MTW and evaluating the organization's operating procedures while preparing for the DCG-S's visit.

IPRs

Preparation progress will be assessed through a series of IPRs. The IPRs are learning and training events for all involved. The events provide a platform to update the hosting unit's

senior officer on MTW preparations, identify concerns, and develop a plan to address these concerns.

Several IPRs should be executed before the MTW. The IPR outcomes are learning events that all of the organization's leaders will experience while preparing for the MTW.

Resources

MTW concepts, standard operating procedures, and other related information provided by logistics officers from across the force are available online at <https://www.us.army.mil/suite/files/43878943>. These products will assist the hosting organization in successfully executing an MTW.

In addition, Department of the Army Pamphlet 750-1, Table 10-1, contains a complete list of checks that should be conducted routinely to ensure the command maintenance discipline program is managed properly. This list is the only published document an organization must follow in order to comply with Army regulations on maintenance. However, this guidance does not replace the evaluation programs that commanders conduct through command

maintenance evaluation teams or inspector general visits.

A sense of pride will develop from completing an MTW. Soldiers will be identified and rewarded for the outstanding work that they have been doing to contribute to unit readiness. Leaders will glean valuable information and knowledge from preparation and the issues that are discovered.

Moreover, MTWs ensure that the Army maintains a ready and capable force that is prepared to deploy on short notice anywhere it is needed. This is your warning order: Be prepared to conduct an MTW in the near future!

Chief Warrant Officer 4 Alexander W. Taylor is a senior automotive maintenance warrant officer and the career management field 91 ordnance warrant officer personnel developer at the Ordnance School at Fort Lee, Virginia. He holds a bachelor's degree in business administration. He is a graduate of every level of professional military education required of a warrant officer, the Basic Airborne School, and the Master Fitness Trainers Course.



A photograph showing the interior of a vehicle cab, likely a Humvee. A soldier's helmet with a camouflage pattern and the name 'GREEN' on the side is resting on the dashboard. The dashboard is a dark, perforated metal plate. In the background, a large window looks out onto a wooded area with green trees. The title text is overlaid on the image.

Wheelhouse Wednesday: Developing Dynamic Leaders by Bridging the Experience Gap

■ By Maj. Sarah E. Stevenson

Spc. Stephen Green, 508th Transportation Company, 266th Quartermaster Battalion, maneuvers a humvee through an obstacle course during the first 266th Quartermaster Battalion Truck Rodeo on Oct. 8, 2015. (Photo by T. Anthony Bell)

FEATURES

The Transportation School develops its leaders by finding creative ways to follow the Army Leader Development Model.

Leadership is the cornerstone of the Army profession; it is deemed so important that it is indoctrinated into each level of the Army. Publications and regulations discuss leadership and teach service members how to focus on it within their organizations.

One such book is Department of the Army Pamphlet (DA PAM) 350–58, Army Leader Development Program. Derived from and expanding on Field Manual 6–22, Army Leadership, DA PAM 350–58 explains leader development further by describing the processes and methods used to manage the Army Leader Development Program. It breaks down leadership by introducing the Army's Leader Development Model. (See figure 1.)

Leader Development Tenets

Each section of the Army Leader Development Model has the same three tenets: experience, education, and training. Following prescribed doctrine and policy, schoolhouses teach leadership to students during professional military education. The schoolhouses focus on developing the education and training tenets.

The education tenet is often taught in a classroom through formal instruction. Specific field-craft education and formal leadership instruction are written into the courses' programs of instruction using both classroom instruction and practical exercises.

This provides students with the building blocks of their profession, better equipping them for mission accomplishment at their units. The classroom instruction also provides a foundation for the training tenet of the Army Leader Development Model.

Transportation School Training

Despite being geographically dispersed, the Transportation School has several training resources at its disposal for all facets of the Transportation Corps. At Fort Lee, Virginia, military occupational specialty

(MOS) 88N (transportation management coordinator) Soldiers train on computer systems in the classroom and then put their skills to use at the Multimodal Training Site.

At the site, students can put what they learned in the classroom to use on C–130 Hercules and C–17 Globemaster aircraft and load cargo at the railhead to see how what they planned in the classroom works in practice. Transportation officers and warrant officers also use the site to practice what they have learned in the classroom.

Officers attending the Transportation Basic Officer Leader Course and Warrant Officer Basic Course use other training sites at Fort Lee as well, including simulation centers where students experience rollover drills and practice convoy skills in a controlled environment.

Transportation watercraft operators are trained at Fort Eustis, Virginia, which has simulators of each Army watercraft. The post also has a disaster tank simulator that simulates a watercraft taking on water. All of these simulators allow students to hone their skills in a training environment, providing them with an advanced skill set before leaving the Training and Doctrine Command environment for their units.

Finally, at Fort Leonard Wood, Missouri, MOS 88M (motor transport operator) Soldiers use a vast road network to hone their driving skills on various tactical wheeled vehicles.

The Transportation School wanted to take training further. When looking at ways to encompass leadership and mentorship training, the Transportation School looked to its higher headquarters. Aligning with the Combined Arms Support Command's line of effort (LOE) "Develop Game-Changing Leaders," the Transportation School created the LOE "Develop Leaders."

This LOE has three major objectives: train, educate, and develop agile Transportation Corps and Department of the Army civilian leaders, talent management, and mentorship.

Wheelhouse Wednesday

The experience tenet is often developed during on-the-job training while Soldiers are accomplishing missions with their units. The Transportation School looked to reduce the experience gap by incorporating formal and informal leader development and mentorship.

Formal training was written into the programs of instruction for the Transportation Basic Officer Leader Course and Warrant Officer Basic Course and supplemented with a relaxed, unofficial event to provide students with another opportunity for leader development and mentorship.

Titled "Wheelhouse Wednesday," this recurring event is meant to connect students and senior leaders of the Transportation Corps. The idea has proven to be a great way to enhance formal schoolhouse training and has been a tradition since the 1970s.

During Wheelhouse Wednesday, senior leaders can share their experiences with students. Students are encouraged to test theories and expand their expertise through discussions with senior leaders. These discussions often lead to follow-up office calls between students and senior leaders, which further the potential for mentorship. Wheelhouse Wednesday also supports the creation of dynamic Transportation Corps leaders in the operational force.

Wheelhouse Wednesday has been a Transportation Corps tradition since the corps was at Fort Eustis. Members would meet weekly at the on-post club, The Wheelhouse, to foster connections with each other outside of the office. Senior transportation leaders believed conducting leader development in a relaxed atmosphere without formal structure would foster better relationships.

The program continued when the Transportation Corps moved to Fort Lee. It is now conducted quarterly at an on-post sports bar called The HideAway. Each session begins with singing the Transportation Corps song followed by the introduction

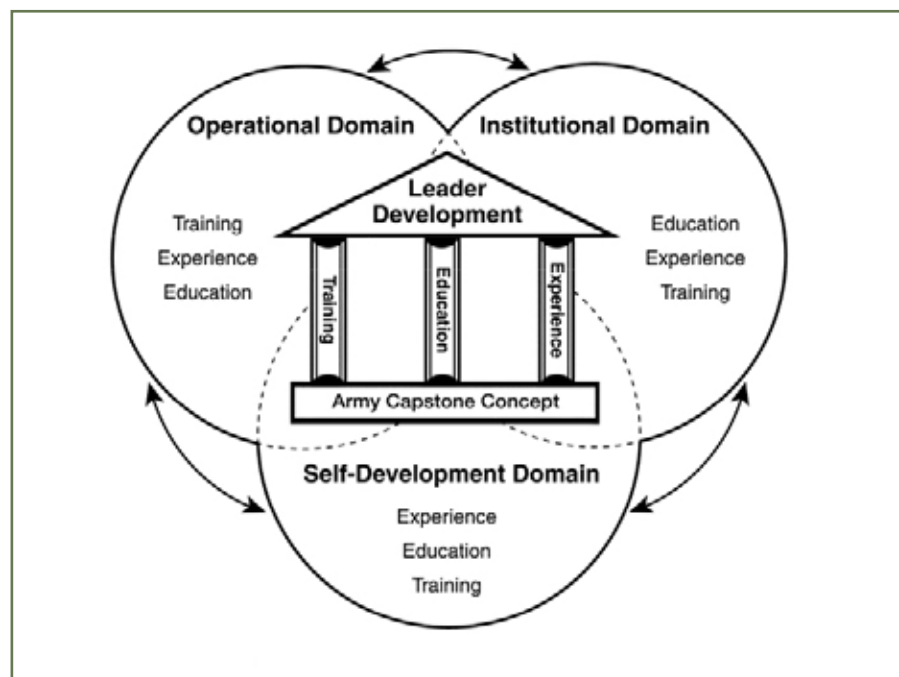


Figure 1. The Army Leader Development Model from Department of the Army Pamphlet 350-58, Army Leader Development Program.

and discussion of a predetermined topic. Topics have included what a battalion commander expects from platoon leaders and career planning for Transportation Soldiers, among others.

Following the question and answer portion, individuals from the Office of the Chief of Transportation are introduced, providing students with additional resources for career progression and talent management. The event ends with junior and senior leaders breaking into smaller discussion groups to encourage leader development, develop mentorship networks between senior leaders and students, and foster esprit de corps.

The Transportation Corps' Wheelhouse Wednesday is one way to execute higher level guidance on leader development by reducing the gap between training and experience for students and officers. Placing an emphasis on leader development will serve the Army well.

The institutional training received in the schoolhouse combined with this quarterly session allows students

to enter the force better prepared to handle the challenges they may face.

Because they have the institutional knowledge from the schoolhouse and the ability to reach out to senior leaders through connections developed at Wheelhouse Wednesday, students are better prepared to handle the ever-changing Army environment.

In the same way that there is no single way to lead, there is no single way to teach leadership or foster mentorship. Wheelhouse Wednesday is simply a way the Transportation Corps executes higher level guidance by creating an environment to foster both leader and mentor development and enhance formalized training.

Maj. Sarah E. Stevenson is a member of the Transportation Initiatives Group in the Office of the Chief of Transportation at Fort Lee, Virginia. She has a bachelor's degree in business administration from the University of Wisconsin-Eau Claire and a master's degree in business administration from the College of William and Mary. She is a graduate of the Army Command and General Staff College.

Repairing Fire Suppression Systems and Batteries Saves Money and Time

A maintenance company refills fire suppression system cylinders and charges vehicle batteries instead of replacing them.

■ By Capt. Lawrence B. Smith and Warrant Officer James M. Manuelson

While deployed in support of operations at Camp Buehring, Kuwait, B Company, 64th Brigade Support Battalion, 3rd Armored Brigade Combat Team, 4th Infantry Division, saved the Army money by recharging and repairing vehicular fire suppression system (FSS) cylinders, portable fire extinguishers, and batteries. B Company's FSS shop is federally certified and equipped to recharge and repair all of these systems.

FSS History

The military first introduced fire suppression systems on ships. Those systems used water to extinguish on-board fires. Because of the modest hauling capacity of the Army's ground vehicles, carrying water to extinguish fires is not ideal, so the Army began using chemical extinguishers.

The first halon extinguisher, developed in 1839 by Henri Victor Regnault, contained carbon tetrachloride. Halon is an excellent dousing agent; however, it has the potential to cause kidney and liver failure in humans. In the early 1950s, the Army and the DuPont chemical company developed a gaseous flooding agent, Halon 1301, which was a more stable version of Regnault's product. Halon 1301 is the same chemical used in today's portable fire extinguishers found on watercraft, aircraft, and ground vehicles.

Current FSSs have proven very effective, and the requirement for every vehicle to have one is growing. Each ground vehicle requires

different chemical variants, making procurement, stocking, and support from manufacturers difficult. Further complicating the issue is the fact that the same FSSs often have different manufacturers.

The FSS Shop

Since FSS cylinders are so unique, replacing the discharged cylinders and valves can be extremely expensive. It costs \$4,032.18 to replace a 20-pound FSS cylinder that is used in an M2A3 Bradley fighting vehicle. However, it costs only \$77 for B Company to refill an FSS cylinder, saving the Army \$3,955.18 per system.

At Fort Carson, Colorado, the 3rd Armored Brigade Combat Team's home station, the FSS shop refills an average of nine cylinders a week in support of the entire installation. The shop has saved the Army millions of dollars since its inception in 2012. While deployed at Camp Buehring, the unit saved the Army tens of thousands of dollars.

The shop's positive impacts go beyond just cost savings; the work it does also offers a considerable reduction in repair cycle times. For instance, the average requisition wait time for an FSS cylinder through the Army supply system is 20 to 24 days. Not having an operational FSS cylinder renders a vehicle not mission capable, degrading combat power and jeopardizing mission accomplishment.

This is where the FSS shop's maintenance solution offers such a distinct advantage. It takes an average of only two days for the FSS shop to conduct

the refill operation. Shortly thereafter, the unit has the FSS back and operational with a significantly reduced effect on unit readiness.

The Battery Shop

While deployed, B Company's ground support equipment section maintained the only battery repair and refurbishment shop in theater. A substandard battery maintenance program in a unit can lead to the premature failure of vehicle batteries, resulting in costly replacements. Battery failures also reduce the maintainers' effectiveness and impede scheduled maintenance efforts.

As a proactive countermeasure, B Company revitalized its battery maintenance management program to better support forward deployed operations. The company built a battery repair and refurbishment shop at a cost of \$37,892.41, which was easily recouped over time. This shop was equipped with a variety of high-tech tools, including analytical testers and charging systems.

The shop employed an assembly-line method and was capable of refurbishing and recharging up to 12 batteries a day, depending on the batteries' condition. Given this design, the unit could run the shop with only one operator, although for safety reasons employing two was preferred. Absolutely no cost was associated with the process, assuming the batteries were still serviceable and could take the charge.

The shop supported a wide variety of tracked and wheeled vehicles, in-

cluding combat platforms of all types, heavy equipment transporters, palletized load systems, heavy expanded-mobility tactical trucks, and humvees. The shop's standard operating procedures outline the safety, preventive maintenance, testing and diagnostics, charging, and replacement measures associated with all vehicle battery types.

The shop's technicians could recondition and recharge flood-cell (wet cell) and Hawker absorbed glass mat batteries. Flood-cell batteries typically last two years on tracked vehicles and three years on wheeled vehicles. Hawker batteries offer a longer life span—up to 54 months if properly charged before installation.

Most of the brigade's batteries are Hawker batteries because of their extended life span and maintenance-free attributes. Since it is a sealed battery, conducting repairs or maintenance beyond recharging is unauthorized, making the shop an even greater asset to operations in theater.

Despite the comparatively long life span of a Hawker battery, prolonged storage and normal aging can degrade its ability to hold a charge, while other factors such as electrical problems can result in similar challenges.

The noncommissioned officer-in-charge of the FSS and battery shops stated that most of the premature battery failures were caused by operator errors, such as leaving lights and radios on overnight, insufficient run times, and exposure to extremely cold weather. These factors heavily contribute to accelerated battery replacement.

Battery Shop Procedures

Discarding and stockpiling batteries in need of replacement in the hazardous waste storage area (HWSA) was the norm prior to implementing the battery shop. After the shop opened, dead batteries could instead be recovered and recharged. Units across Camp Buehring could order battery work through B Company, saving the units and the Army money and time.

Once a job request from a supported



Spc. James Bowman charges batteries that will be issued to various units in Afghanistan on Aug. 7, 2014. (Photo courtesy of the 10th Mountain Division Sustainment Brigade)

unit was received, a shop Soldier evaluated the battery for cold cranking amperage and voltage. The technician then determined whether the battery needed discharging or reconditioning. After making this determination, the technician placed the battery on a pallet charger and left it to charge for 24 hours.

The following day, the technician tested the battery with the battery analyzer to ensure it maintained the charge. If it did, then the shop issued the battery to a supported unit through a one-for-one swap. The shop successfully refurbished and recharged approximately 75 to 80 percent of the batteries it received.

If the shop could not recharge the battery because of prolonged storage, age, or another reason, it disposed of the battery in an environmentally conscious manner by working with the HWSA at Camp Buehring.

Through ingenuity and with determination, warrant officers of the unit designed these shops, procured the required equipment, and ensured Soldiers received the proper training and certifications. Thanks to their

hard work, the FSS and battery shops saved the Army millions of dollars and greatly reduced repair cycle times. Given the requirement to maintain expeditionary readiness with reduced budgets, these shops were vital to the 3rd Armored Brigade Combat Team and other units at Camp Buehring.

Capt. Lawrence B. Smith is the company commander for B Company, 64th Brigade Support Battalion, 3rd Armored Brigade Combat Team, 4th Infantry Division. He has a bachelor's degree in business administration from Columbia College and is a graduate of the Army Officer Candidate School, the Ordnance Basic Officer Leader Course, and the Combined Logistics Captains Career Course.

Warrant Officer James M. Manuelson is the engineer equipment maintenance warrant officer for B Company, 64th Brigade Support Battalion. He has an associate degree in general studies from Central Texas College. He is a graduate of the Warrant Officer Candidate School and the Warrant Officer Basic Course, and he is certified in computer-aided drafting.



Bradley fighting vehicles move forward to a refuel on the move site on March 30, 2015, during the 1st Armored Division's exercise Iron Focus 15 at Fort Bliss, Texas. (Photo by Maj. Leslie Grayham)

Maintaining Momentum Through Refuel on the Move

The 1st Armored Division provides lessons learned from conducting refuel on the move operations for the first time since Operation Desert Storm.

■ By Maj. Leslie A. Grayham

Refuel on the move (ROM) allows a unit to sustain long distance movements and is normally found at the end of an approach march from the corps support area to the division tactical assembly area.

During World War II, enemy forces found themselves stranded along main supply routes because their

equipment had run out of fuel. The U.S. Army overcame the same problem by tactically refueling its vehicles while on the move.

While Lt. Gen. George S. Patton's Third Army marched across France to face Hitler's forces, it was forced to halt at one point as it ran dangerously low on fuel. Patton's fuel allocation fell 100,000 gallons short of

what was needed to sustain onward movement.

Only when fuel trucks were brought forward as part of the Red Ball Express to resupply Patton's tanks were his forces able to continue their advance.

In today's Army, ROM operations are no longer practiced regularly. During a training exercise in 2015,

the 1st Armored Division executed a ROM for the first time since Operation Desert Storm.

ROM Doctrine

According to Army Techniques Publication 4-43, Petroleum Supply Operations, the primary purposes of ROM operations are to provide “a ‘fuel splash’ for convoy movements to extend maneuverability to reach the intended destination when complete refueling operations are either not practical or unneeded” and to provide “fuel between engagements to extend the time that U.S. forces can spend on the objective.”

Increasing units’ time on the objective by decreasing their need to return to the rear to replenish fuel allows them to sustain an extended engagement with the enemy.

A ROM is not meant to operate like a gas station where you fill your fuel tank until it is full. Instead, each vehicle receives a predetermined quantity of fuel or an amount of time to receive fuel at the ROM site and then rejoins its formation to continue its journey.

Iron Focus 15

In March and April 2015, the 1st Armored Division sponsored Iron Focus, an annual field training exercise in which a heavy or Stryker brigade combat team (BCT) and its enabling units spend two weeks in the deserts of Texas and New Mexico conducting decisive action operations.

In keeping with the division commander’s intent, the 1st Armored Division executed a 16-point ROM during the exercise.

The ROM occurred on March 30, 2015, and refueled 234 military vehicles including Bradley fighting vehicles, Abrams tanks, and Strykers.

An armored or Stryker BCT packs a heavy punch with its powerful tanks, Bradley fighting vehicles, or Strykers. However, the capability comes at a price; these assets use an enormous amount of fuel when they are conducting battlefield operations.

ROM operations become a force multiplier for maneuver units by enabling the combatant commander longer operational reach deep into the enemy’s battlespace, potentially catching them out of position and off guard.

During contingency operations, the decision to conduct a ROM is

der, the fuel sections of the 504th Quartermaster Company, the 142nd CSSB, and the 501st Brigade Support Battalion (BSB) from Fort Bliss were given a warning order to be prepared to execute a 16-point ROM during the decisive action portion of the training exercise.

Although conducting a ROM

Every unit participating in the event needed to know and understand the plan in order to help it run smoothly.

carefully analyzed by the commander because it involves allocating a large percentage of direct support fuel assets that would normally be used to support a brigade.

Additionally, a ROM presents a high-value target to the enemy. A huge portion of the division’s fuel assets, as well as its maneuver units, could be caught while assembled in one location, making them very vulnerable to attack.

Factors such as the commander’s intent, terrain, enemy situation, troops, and time available all contribute to the decision of conducting a ROM and the location.

The ROM operation for Iron Focus 15 was conducted in three phases: planning and preparation, training and rehearsals, and execution.

Planning and Preparation

Preparation for the ROM started with a rigorous planning process approximately four months prior to the March execution date. It began with the receipt of the division’s operation order, which stipulated the ROM operation as a key task of Iron Focus 15.

The 142nd Combat Sustainment Support Battalion (CSSB) at Fort Bliss, Texas, was given the lead role in executing this task.

Upon receipt of the operation or-

der, the fuel sections of the 504th Quartermaster Company, the 142nd CSSB, and the 501st Brigade Support Battalion (BSB) from Fort Bliss were given a warning order to be prepared to execute a 16-point ROM during the decisive action portion of the training exercise.

Although conducting a ROM is normally under the direction of a BSB, the division’s order placed the CSSB in charge of this mission with augmentation from the 501st BSB.

Next, a deliberate military decisionmaking process (MDMP) commenced. Representatives from the 1st Armored Division Sustainment Brigade and the 142nd CSSB support operations (SPO) sections and the S-3 and S-4 sections came together to war game and plan the ROM. The representatives identified the personnel and equipment needed to successfully execute the ROM and possible shortages using mission requirements based on the commander’s scheme of maneuver nested in the division commander’s intent.

The division commander’s intent was for the 142nd CSSB to conduct a 16-point ROM in an austere location in the maneuver area using M978 heavy expanded-mobility tactical trucks (HEMTTs). M978 HEMTTs were chosen based on the rugged terrain anticipated for the decisive action portion of the exercise.

The M978 HEMTT has a capacity of 2,500 gallons of fuel and, when fitted with a modified ROM kit, is capable of distributing fuel through four points at a rate of approximately 20 to 25 gallons per minute depending on terrain and other factors, in-



A Soldier extinguishes a fire on a 5,000-gallon fuel tanker just two miles into its 120-mile journey to the refuel on the move site during Iron Focus 15 at Fort Bliss, Texas. (Photo by Maj. Leslie Grayham)

cluding the size of the hoses used to distribute the fuel from the fuel tanker, the distance from the tanker to the location of each of the four fuel points, and whether or not all points are running simultaneously.

The 142nd CSSB and 501st BSB's ROM kits are designed to be used with the M969 semitrailer, which has a 5,000-gallon capacity and can distribute fuel from eight points at rate of approximately 30 to 35 gallons per minute.

The MDMP also allowed the 142nd CSSB to integrate enablers into the planning process. This included A Company, 1st Battalion, 35th Armored Regiment, from Fort Bliss, which was tasked with providing force protection for the ROM

site, and a fuel platoon from the 501st BSB.

Training and Rehearsals

Site selection was critical. The location had to be practical, have a good avenue of approach and reasonable natural protection, and still fall within the commander's scheme of maneuver.

Site reconnaissance (recon) and an initial rehearsal of concept drill were conducted using a convoy comprising two M978 HEMTTs (each containing 2,500 gallons of fuel), two light medium tactical vehicles (one transporting the ROM kit and the other transporting the 25-Soldier fuel platoon), two M1151 humvees, gun trucks for security, and an M998

humvee that was used as a command vehicle.

At the site, Soldiers from the fuel platoon rehearsed setting up an eight-point ROM and pumped fuel through all points to test the equipment. This procedure was designed to uncover any leaks in hoses or equipment faults. Conducting the recon in conjunction with a hands-on rehearsal gave Soldiers a chance to experience the environment and ROM equipment assembly and disassembly before the actual event.

Two more rehearsals were conducted in the 504th Quartermaster Company motor pool. The events included players from the BSB and the CSSB to ensure that everyone was prepared to carry out their roles.

Complications

A fragmentary order was released two days before the ROM, changing its location to accommodate last-minute changes to the mission and scheme of maneuver. Because there was no time to conduct recon at the new site, the team had no idea what to expect. The 142nd CSSB commander, the ROM's mission commander, pulled the team together and prepared to execute the mission.

Because the ROM was conducted in an austere location far forward on the battlefield, the ROM team had to transport 25,000 gallons of fuel by tactical convoy 120 miles forward from the logistics support area.

Approximately two miles into the journey along the main supply route, the right rear wheel hub of a 5,000-gallon fuel tanker caught on fire. The quick reaction of the tanker's crew and the Soldiers following behind it helped to extinguish the huge flame that had developed and saved the tanker and the 5,000 gallons of fuel on board. After fighting the flames for about an hour and subsequently switching tankers, the convoy continued to the ROM site.

Once on site, the team discovered that the location was heavily overgrown with shrubs and brush. Soldiers had to carefully position the fuel tankers to avoid damaging the tires. While assembling the fuel points, the team discovered that two of the nozzles were damaged and could not be used. Luckily, extra nozzles were on hand, and the team was able to continue the mission.

Heavy dust conditions on the trail leading to and at the actual fuel points were also an issue. These conditions lived up to the 1st Armored Division commander's intent of "tough, realistic training," so the team adapted and overcame.

Execution

The 142nd CSSB was task organized with an armor company to provide security for the ROM site. This unit, A Company, 1st Battalion,

35th Armored Regiment, cleared and secured the site prior to the fuel team's arrival and arrayed its Bradley fighting vehicles and tanks to form a 360-degree security perimeter around the site for the duration of the ROM operation.

Additionally, intelligence, surveillance, target acquisition, and reconnaissance assets were on site to provide air cover.

The 501st BSB and 142nd CSSB team conducted the ROM at a point in the battle when the maneuver units were transitioning into their attack positions on the battlefield. The ROM configuration depended on several factors: the equipment being used (for instance two M978s for an eight-point ROM versus one M969 for the same eight points), location, and the enemy and security posture in the area.

The layout of the ROM during Iron Focus consisted of a staging area where all vehicles assembled into columns of similar vehicles while they waited to receive fuel, the fueling site where the 16 points were set up in a linear configuration, and a marshaling area where vehicles reassembled after receiving fuel.

Lessons Learned

Based on feedback from the maneuver units that participated and the Soldiers that ran the ROM operation for Iron Focus 15, the ROM was a great success. The BSB and CSSB learned several lessons from the operation.

Good communication. Every unit participating in the event needed to know and understand the plan in order to help it run smoothly. Good communication was essential among all the players, including the maneuver units going through the ROM.

Clear signs and leaders. Having a well laid out ROM site with each area clearly marked and a noncommissioned officer-in-charge for each section worked well for Iron Focus 15. This facilitated better management of the maneuver vehicles flow-

ing through the ROM.

Using a "follow me" vehicle to lead the columns of vehicles from the staging area to the fuel points also worked well. This was done because the staging area was far from the fuel points.

Weekly in-progress reviews. Weekly in-progress reviews allowed all stakeholders to come together for an azimuth check on how preparation and training were progressing.

Some of the issues faced were equipment shortages, competing mission requirements, and shortages of qualified fuel handlers in the BSB and CSSB. These challenges were resolved by asking for assistance from higher headquarters and reaching across other brigades and sustainment units in the division for help.

Having weekly meetings kept everyone informed. Finally, by conducting rehearsals with all players, the team was able to hone its skills before the day of actual execution.

The Army has been able to achieve and maintain its status as the greatest fighting force because of its ability to tactically and efficiently extend its operational reach deep into the battlefield through outstanding logistics. ROM is one logistics capability that allows the Army to take the fight to the enemy with relentless pursuit, overwhelming firepower, and confidence.

Maj. Leslie A. Grayham is the battalion support operations officer for the 142nd Combat Sustainment Support Battalion, 1st Armored Division Sustainment Brigade, at Fort Bliss, Texas. He holds a bachelor's degree in computer information systems and business management and a master's degree in transportation and logistics management. He is graduate of the Officer Candidate School and the Combined Logistics Captains Career Course, and he is currently enrolled in distributed learning Intermediate Level Education.



Warrant Officer Russ Mangels runs a computer numerical control toolroom lathe during the Warrant Officer Basic Course at the Ordnance School at Fort Lee, Virginia, on Oct. 29, 2015. Warrant officers and allied trades instructors were the first to train on the equipment that will replace manual machines in the schoolhouse and in the field. (Photos by Julianne Cochran)

Advanced Shop Sets for Soldiers' Advanced Skill Sets

■ By Sgt. Travis M. O'Brien

As a military occupational specialty (MOS) 91E (allied trades specialist), I fabricate, repair, and modify both metallic and nonmetallic parts. Nine years ago, I was trained to use manual lathes and milling machines to fabricate various parts and special tools. I was also trained to repair metal using various welding processes such as shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).

Despite this training, the outdated equipment available to me in the field throughout my career has prevented me from fully using my skills. And at each of my assignments, the unit's modified table of organization and equipment usually allowed for either welding equipment or machining equipment, not both. This structure limits the capabilities for allied trades specialists.

Times and equipment are changing, however. Not only have Soldier

skills evolved, but the equipment they use is changing to accommodate their expanded skills.

Evolving Jobs

Prior to July 2010, the Army trained two MOSs to meet its metalworking needs: MOS 44E (machinist) and MOS 44B (welder). Machinists were trained to manufacture metallic and nonmetallic parts using machines such as manual lathes and milling machines. Welders were trained to

repair metal using SMAW, GMAW, and GTAW welding processes.

In July 2010, the Army combined MOSs 44E and 44B into MOS 91E. Allied trades specialists are trained in both welding and machining skills. However, equipment configurations assigned to units in the field remained separated into equipment sets for MOS 44E and 44B Soldiers.

Evolving Equipment

Equipment has evolved, but today's shop equipment is designed more for welding than machining. The most common piece of equipment is the shop equipment welding (SEW) trailer. The SEW consists of a welding generator and various welding tools. The SEW is capable of supporting all welding processes, but the generator's design prevents an allied trades specialist from performing quality welding, and it has no machining capabilities.

Very few shop sets in the field are designed for machining. Two examples are the shop equipment, general purpose repair, and the aviation intermediate maintenance machine and welding shop set. These sets feature a manual lathe, drill press, and various hand tools. Both machining shop sets were acquired by the Army in the mid-to-late 1980s and are extremely outdated. Most of these sets are unserviceable because their repair parts no longer exist.

Units often turn in this obsolete equipment as unserviceable and are left with no machining capabilities whatsoever. Machining equipment that remains in the field hinders the capabilities of allied trades specialists because they are trained on modern, technologically advanced equipment in addition to manual equipment.

MWMSS

The Army recognized the need for up-to-date equipment that would complement all of the capabilities of MOS 91E Soldiers. In fiscal year 2015, the Army started fielding the metal working and machining shop set (MWMSS).

The MWMSS consists of two expandable mobile containers. Type 1 contains a computer numerical control (CNC) toolroom lathe (TL-1), multiprocess welding equipment, thermal cutting equipment, air-arc gouging capability, an air compressor, a mobile electric power generator for shop power, an environmental control unit (ECU), and an assortment of hand tools. Type 2 augments type 1 and contains a CNC toolroom mill (TM-1), CNC plasma cutting table, ECU, and various hand tools.

Together the two sets create a metalworking repair complex that will be located in field and sustainment maintenance units. Once fully fielded, the MWMSS will replace over 20

types of outdated tool kits and shop sets within the Army's inventory.

MWMSS Specifics

The MWMSS equipment will allow allied trades specialists to manufacture and repair parts with speed and accuracy that is not achievable with current shop sets. The MWMSS will be the most versatile piece of equipment that allied trades specialists have ever had at their disposal and make them capable of supporting any mission. The CNC technology and computer-aided design and computer-aided manufacturing (CAD/CAM) software, never available in the field before, allows allied trades specialists to create vir-



Hortansia Zaccheus, an Advanced Leader Course instructor for allied trades specialists at the Army Logistics University, checks a measurement before manually making a cut with a computer numerical control toolroom mill during train-the-trainer instruction at the Ordnance School at Fort Lee, Virginia.



Computer numerical control toolroom lathes, like these at the Ordnance School at Fort Lee, Virginia, will be part of the metal working and machining shop set that will soon replace manual equipment sets in the field. (Photo by Julianne Cochran)

tually any part for any piece of equipment in the Army's inventory.

CNC technology. The MWMSS inventory of tools and equipment features up-to-date machining and welding technology. The Haas Automation, Inc., CNC toolroom lathe and toolroom mill are the focal point for the MWMSS. CNC technology allows allied trades specialists to manufacture parts with greater speed and accuracy compared to any shop set currently in the field. Haas CNC machines feature the Intuitive Programming System, a proprietary operating system that guides the op-

erator through the steps necessary to machine a part.

CAD/CAM software. To complement the powerful CNC technology, the MWMSS contains a laptop computer with CAD/CAM software. Delcam FeatureCAM provides an allied trades specialist the CAD software to design a part, and then the CAM software takes over to generate the code that the CNC machine will use to make the part.

The allied trades specialist can then upload the part program to the Haas CNC machine and fabricate that part using the cutting tools, which

were previously operated by a machinist, and let the machine perform all of the calculations needed to produce a perfect part.

Welding. The welding capability of the MWMSS is also state of the art. The inverter welding equipment allows for precise welding on all steel and alloy materials. The Miller XMT350 and Dynasty200 welding machines are multiprocess welding machines for SMAW, GTAW, and GMAW operations. These machines offer allied trades specialists advanced welding options, such as GMAW pulse, GTAW pulse, and flux core welding. The MWMSS also features metal cutting ranging from thermal arc cutting to CNC plasma cutting.

The Track Metalworking and Recovery Division located at the Army Ordnance School at Fort Lee, Virginia, received two MWMSSs in late 2015 to incorporate into advanced individual training. Conducting this training should be straight forward since the same equipment is already used throughout the training.

When fully fielded, the MWMSS will provide the Army with a metalworking repair complex that is the first of its kind. It will be a shop that provides current industry standard metalworking technology tailored for both welding and machining.

With CNC technology and inverter welding capability, the allied trades specialist will be able to manufacture and repair parts for nearly all military equipment. Having this capability will expedite the return of equipment to operational readiness, and in turn, enhance the Ordnance Corps' ability to help the Army win on the battlefield.

Sgt. Travis M. O'Brien is a senior instructor at the Ordnance Corps and School's Track Metalworking and Recovery Department at Fort Lee, Virginia. He holds welding certifications through the American Welding Society and three metalworking skill certifications through the National Institute of Metalworking Skills.

Submissions

Commentary

Commentary articles contain opinions and informed criticisms. Commentaries are intended to promote independent thoughts and new ideas. Commentary articles typically are 800 to 1,600 words.

Spectrum

Spectrum is a department of *Army Sustainment* intended to present well-researched, referenced articles typical of a scholarly journal. Spectrum articles most often contain footnotes that include bibliographical information or tangential thoughts.

In cooperation with the Army Logistics University, *Army Sustainment* has implemented a double-blind peer review for all articles appearing in its Spectrum section. Peer review is an objective process at the heart of good scholarly publishing and is carried out by most reputable academic journals. Spectrum articles typically are 2,500 to 5,000 words.

Features

Features includes articles that offer broader perspectives on topics that affect a large portion of our readers. These can focus on current hot topics or the future of the force. These articles can be referenced, but it is not required if the content is within the purview of the author. While these articles can be analytic in nature and can draw conclusions, they should not be opinion pieces. Features typically are 1,600 to 5,000 words.

Operations

Operations includes articles that describe units' recent deployments or operations. These articles should include lessons learned and offer suggestions for other units that will be taking on similar missions. These articles require an official clearance for open publication from the author's unit. Photo submissions are highly encouraged in this section. Please try to include five to 10 high-resolution photos of varying subject matter. Operations articles typically are 1,200 to 2,400 words.

Training & Education

Training & Education is dedicated to sharing new ideas and lessons learned about how Army sustainers are being taught, both on the field and in the classroom. Training & Education articles typically are 600 to 1,100 words.

Tools

Tools articles contain information that other units can apply directly or modify to use in their current operations. These articles typically contain charts and graphs and include detailed information regarding unit formations, systems applications, and current regulations. Tools articles typically are 600 to 1,800 words.

History

History includes articles that discuss sustainment aspects of past wars, battles, and operations. History articles should include graphics such as maps, charts, old photographs, etc., that support the content of the article. History articles typically are 1,200 to 3,000 words.

Writing for *Army Sustainment*

We are always looking for quality articles to share with the Army sustainment community. If you are interested in submitting an article to *Army Sustainment*, please follow these guidelines:

- ☐ Ensure your article is appropriate to the magazine's subjects, which include Army logistics, human resources, and financial management.
- ☐ Ensure that the article's information is technically accurate.
- ☐ Do not assume that those reading your article are Soldiers or that they have background knowledge of your subject; *Army Sustainment's* readership is broad.
- ☐ Write your article specifically for *Army Sustainment*. If you have

submitted your article to other publications, please let us know at the time of submission.

- ☐ Keep your writing simple and straightforward.
- ☐ Attribute all quotes to their correct sources.
- ☐ Identify all acronyms, technical terms, and publications.
- ☐ Review a past issue of the magazine; it will be your best guide as you develop your article.

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Let's Talk!


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An expeditionary mindset: Ready for anything

August 31, 2015

By Lt. Gen. Gustavo "Gus" Perna

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The urgency of training logistics leaders to perform expeditionary logistics hit home to me earlier this year when I spoke to a thousand majors in the Command and General Staff Officers' Course at Fort Leavenworth, Kansas. Many of these top-quality officers had served on multiple deployments to Iraq or Afghanistan. However, they all entered the Army in 2003, so they are heading out to run battalions and brigades having never seen

followed a well-defined model, Army Force Generation, which allowed us to focus resources for specific units, times, and missions. But gone are the days of predictable rotations. We have new missions all over the world, and now we have to be ready for anything at any time.

September-October 2015 issue of Army Sustainment magazine

Created by Jiliana Cochran on Aug 18, 2015 12:52 PM. Last modified by Jiliana Cochran on Sep 4, 2015 9:30 AM.

Army G-4
 An Expeditionary Mindset: Ready for Anything
 By Lt. Gen. Gustavo "Gus" Perna (@gustavoperna)
 The Army needs a well-planned and well-executed logistics leader development campaign in order to develop an expeditionary mindset.
<http://go.usa.gov/3G25z>

Blind Spot
 Defining Analytics and Its Supporting Role in Military Logistics Intelligence
 By Dr. Christopher R. Paparone (@christopher_r_paparone) and George L. Topik Jr.
 To improve organizational learning and decision-making, Army logistics should view analytics as part of the broader perspective of evidence-based management, or what the authors call, military logistics intelligence.
<http://go.usa.gov/3G25z>

Commentary
 Trained and Ready Logistics Forces
 By Col. Robert L. Halcher Jr. (@rhalcher)
 The Army had to work hard to develop logistics force training and readiness at its current levels. The next challenge will be to maintain these levels of training and readiness.
<http://go.usa.gov/3G25z>

The Need to Expand Training and Education on Nonstandard Logistics
 By Capt. Christopher J. Sheehan
 Nonstandard logistics is an important component of unconventional warfare, but no existing course focuses solely on that subject.
<http://go.usa.gov/3G25z>

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Army Sustainment @ArmySustainment · Sep 11
 The Armament Graduate School is part of the Armament Research, Development and Engineering Center (ARDEC), whose [to me/HUCytsEU](#)

Ed Campbell @Campbellms · Sep 11
 @ArmySustainment @ARDEC
 Is this strictly a residential program, or is this something other members of the LCMC participate?

Army Sustainment @ArmySustainment · Sep 11
 Good question. @Campbellms Do you want to know if it's available to the @JML_LCMC?

Ed Campbell @Campbellms · Sep 11
 @ArmySustainment @JML_LCMC
 Seems like we would want people with the production operations onboard with this as well

Army Sustainment @ArmySustainment · Sep 11
 @Campbellms @JML_LCMC @ARDEC I agree. From a collaboration standpoint, it seems that it would provide a wider experience base.

Army Sustainment @ArmySustainment · Sep 11
 @Campbellms @ARDEC says it is open to all members of the LCMC. If you are @Picatinny they will cover tuition and books. @JML_LCMC

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 Thanks! I'll definitely look into it....Hope this becomes online, as TDY these days is not easy to get.

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Sustainer Spotlight

Sgt. 1st Class Chad Corey, an instructor assigned to the Basic Wheel Division, Wheeled Maintenance Training Department, at the Ordnance School at Fort Lee, Virginia, submitted an idea through the Supply and Maintenance Assessment and Review Team program that could save the Army thousands of dollars in parts replacement costs for the humvee and other vehicles. He was recognized for his suggestion by Ordnance School leaders during an awards presentation on Nov. 16, 2015. (Photo by T. Anthony Bell)

Find out more about his idea:

