

Fires

The Human Dimension

Team Building and Enhancing Performance

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Brian J. McKiernan
Major General, United States Army
Commanding General, Fort Sill, Okla.

Purpose

Originally founded as the Field Artillery Journal, Fires serves as a forum for the discussions of all Fires professionals, Active, Reserves and National Guard; disseminates professional knowledge about progress, development and best use in campaigns; cultivates a common understanding of the power, limitations and application of joint Fires, both lethal and nonlethal; fosters joint Fires interdependency among the armed services; and promotes the understanding of and interoperability between the branches, all of which contribute to the good of the Army, joint and combined forces and our nation.

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On the cover

Cpl. Christian Marin, from Marine Wing Support Squadron (MWSS) 171, drags a simulated casualty during Exercise Eagle Wrath 2016 at Combined Arms Training Center Camp Fuji, July 29, 2016. (Lance Cpl. Aaron Henson/ U.S. Marine Corps)



Lt. Gen. Michael Lundy, Combined Arms Center and Fort Leavenworth commanding general, hands the Fires Center of Excellence colors to Maj. Gen. Brian McKiernan symbolizing the change of leadership from Maj. Gen. John Rossi. FCoE and Fort Sill Command Sgt. Maj. Carl Fagan (right), also took part in the exchange July 21, at Old Post Quadrangle. (Jeff Crawley/Fort Sill Tribune)

Fires Center welcomes new commander

By Jeff Crawley

Returning to Fort Sill where he became a field artillery officer in 1986, and where his father began his military career 50 years ago, Maj. Gen. Brian McKiernan took command of the Fires Center of Excellence and Fort Sill, during a change of command ceremony July 21, at Old Post Quadrangle.

"I am honored, I am absolutely humbled to be your next commanding general," said McKiernan, who most recently commanded First Army Division East at Fort Knox, Ky.

"There is no other duty I would rather perform for our Army at this time. And there is absolutely no other community I would rather live in or serve than the Lawton-Fort Sill community."

McKiernan served as the 49th Field Artillery School commandant and chief of FA, leaving here in April 2013.

He said many mentors, leaders and Soldiers had a hand in making the FCoE the next stop for the McKiernans. He acknowledged many of them present, including re-

tired Lt. Gen. David Halverson, former FCoE and Fort Sill commanding general. McKiernan went on to thank his wife, Dr. (Col.) Sharon McKiernan and their children, whom he called his little half section.

"(Sharon) All I want you to know is that I love you and I can't tell you how happy I am to have you and our four incredible daughters by our side," he said. "And how proud I am to be known as, first of all, your husband, and the father of your daughters."

Remembering Rossi

Information from Redstone Arsenal

Maj. Gen. John Rossi, 55, of Long Island, New York, passed away July 31 at Redstone Arsenal, Ala. He was slated as the incoming commander of the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command.

Rossi previously served as the commanding general of the U.S. Army Fires Center of Excellence and Fort Sill, Okla. Prior to that assignment, he served as the director of the Army Quadrennial Defense Review Office in the Pentagon.

"It is with profound sadness that we offer our thoughts and prayers to the entire Rossi family during their time of loss. His passing is a great loss to the Fires Force and the Army."

Maj. Gen. Brian McKiernan

Fires Center of Excellence and Fort Sill commanding general



Maj. Gen. John Rossi. Photo taken during the Fires Center of Excellence change of command ceremony July 21 at Fort Sill, Okla. (Photo by Monica Wood)

The ceremony's reviewing officer Lt. Gen. Michael Lundy, Combined Arms Center and Fort Leavenworth commanding general, recounted outgoing FCoE commanding general, Maj. Gen. John Rossi's accomplishments and welcomed the McKiernans.

"For the past couple years, Rossi has thought and executed big to move field and air defense artillery, as well as the Army forward, Lundy said.

Rossi influenced the joint military community through concepts that have taken hold very quickly, he's worked multiple material development solutions that brought FA and ADA into the future, he's helped to rewrite doctrine at the division level, he brought back division artillery, he's grown the Terminal High Altitude Area Defense system and increased the Patriot missile mission, Lundy said.

"Look at all these complex challenges, John (Rossi) and his team have done phenomenally, the CAC commander said. He's really set an example for our centers of excellence across the Training and Doctrine Command.

"When I think about John, I think about innovation, I think about passion, I think about intensity," Lundy said. "The first thing he thinks about every day are his Soldiers and Marines."

The Army got it right by bringing the McKiernans to Fort Sill, Lundy said.

"There's no better team than Brian and Sharon to come in here," he said. "I absolutely look forward to the next two years.

"As I looked at John Rossi (an ADA officer) become one of the best field artillerymen, I have no doubt that you're going to be

one of the best air defenders in the Army," said Lundy to McKiernan.

Maj. Gen. Rossi

"I loved this job," Rossi said. When the ceremonial Fort Sill Artillery Half Section named its new horse after Rossi, the general said he knew it was time to go.

"It's feisty, it looks a little different," Rossi said. "They tell me it's untrained generally with the (field) artillery bit and has to learn it, a lot like me."

Rossi first thanked God, and then numerous people.

"I want to thank the Soldiers, the leaders and the civilians. From (Command) Sergeant Major Lindsey to our newest privates, from the generals to the lieutenants, from the front office to the talented and committed civilian workforce, who make the place run like clockwork. Thanks for doing it right. You never let us down," he said.

This was Rossi's first assignment at Fort Sill.

"I want to thank the community leaders and friends. You make this the community of choice. You have an unmatched connection that I've never seen before between a community and a post.

"To Liz and the kids: With you I won big, I won the jackpot," Rossi said. "It's the walk-off homerun that any man would dream of having."

Afterward, Rossi spoke with the media. "I've been working with Soldiers many years, and they keep affirming to me that they are amazing."

He added that he did not have much experience working with the DA civilian work-

force before, but in his time here he learned that they are an astonishing workforce with their commitment and the continuity they give the Army.

Rossi said he was experiencing bitter-sweet emotions with the change of command.

"This is tradition as commanders come and go, the name tag changes," he said, "but the colors and institution of command live on."

Award prelude

Before the change of command, Lundy presented Rossi with the Distinguished Service Medal for exceptionally meritorious service as the FCoE and Fort Sill commander from June 3, 2014 to July 21, 2016.

Rossi, a visionary leader, led the installation during the Army's 2020 reshaping, implementation of the sexual assault campaign, Fires force restructuring, sequestration, civilian furloughs and government shutdown, said program narrator Mike Simmons, Directorate of Plans, Training, Mobilization and Security chief of ceremonies. Rossi simultaneously implemented crucial operational, institutional and post restructure initiatives.

Lundy presented Fort Sill First Lady Liz Rossi with the Outstanding Civilian Service Award, the Margaret Corbin Award for volunteerism, the Oklahoma Governor's Commendation, and the Red Legacy Award for the impact she made on the Army and Lawton-Fort Sill community.

Jeff Crawley is an award-winning photo-journalist for the Fort Sill Tribune at the Fires Center of Excellence.



Brig. Gen. Randy McIntire

Commandant of the U.S. Army Air Defense Artillery School

My fellow air defenders, Command Sgt. Maj. Finis Dodson and I are so privileged and excited to be the new commandant and regimental command sergeant major for the Air Defense Artillery. It is an honor to be able to lead and represent our branch as we move forward.

Brig. Gen. Christopher Spillman and I had an excellent transition. Command Sgt. Maj. Dodson and I want to thank him for his outstanding leadership and stewardship of our branch over the past two years. During his time as commandant, the branch has made significant advances across many domains and is postured well to meet the future.

We must continue to develop the ADA branch transformation and modernization. Over the next two years, I want to solidify the work that has been done on doctrine while focusing on the organization “O” domain of DOTMLPF. I want to ensure that we pay close attention to the organizational structures right from the beginning thus ensuring we are creating an agile force that is fully scalable to meet the demands of the future adversary.

We fully embrace and are well prepared to advance the priorities connected with our evolutionary change.

The focus of the air defense future

Mission first, people always

Priority one: branch transformation; fundamentally change the way ADA units man, train and equip. We must position ourselves to update our enlisted and warrant officer military occupational specialties, our command and control methods, and our engagement controls and system employment doctrines to fully exploit the flexibilities that Integrated Battle Command System (IBCS) provides.

Priority two: counter unmanned aerial systems (C-UAS) strategy. Currently the C-UAS strategy document is with Department of the Army Headquarters, chief of staff, United States Army, for signature. Within the next few months a draft training circular is due to be released for staffing and will provide commanders with the essential guidelines to combat this emerging threat.

Priority three: air and missile defense modernization. We are positioned to exploit the opportunities of the maturing IBCS as it enters a new phase towards fielding. The Indirect Fire Protection Capability (IFPC) Increment 2 – Intercept Block 1 progress over the past few months has been impressive and we will continue to grow this capability to meet the threat to our maneuver formations.

Mission first, people always – we must invest in our most precious resource, people. We want to continue creating world class small unit leaders through our Non-commissioned Officer Education System while updating the programs of instruction to include subjects intended to make our NCOs technical experts of their equipment. This educational shift will link to branch transformation ensuring Soldiers and NCOs

are well positioned to be flexible and adaptive leaders prepared to meet future requirements.

I am excited to continue the great work that has been put into our Warrant Officer Education System. I not only want to increase the professional education of our warrant officer cohorts, but also ensure they are well positioned to support the force. We must build our warrant officer bench now to be postured with the technical expertise in our formations that will enable modernization. The future growth of our warrant officers will increase the flexibility of our formations and allow us to continue being the world leader in air defense.

We are working with the American Council on Education to gain college education accreditation for the military education and life skills our air defenders obtain at each level of their career. I am very excited about this effort. We have an opportunity to not only update our MOS’s accreditation, but add 14G and 14H MOS ability to apply for and gain college credits.

My intent as we move forward is to continue fostering teamwork across the ADA community; be responsive to the needs of the Warfighter; ensure we can provide the subject matter experts when needed; synchronize the ongoing efforts of modernizing the force; uphold the reputation of the ADA branch across the Army and maintain balance within the air defense force. We are interested in hearing and being able to address issues concerning all air defenders. Command Sgt. Maj. Dodson and I are here and fully engaged.

First to Fire!



Redlegs look to close gaps in core competencies, future training

Col. Stephen Maranian

Commandant of the U.S. Army Field Artillery School

Field artillery leaders, I am humbled and honored to serve you as the chief of the field artillery and commandant of our Field Artillery School.

To start, I'd like to highlight some early observations to stimulate dialogue on our way forward. The branch and school are doing well. There have been numerous and significant advances across the DOTMLPF-P domains enabling us to move the field artillery branch and Fires Warfighting Function into the future.

Since arriving, I've had the opportunity to visit with a number of students and instructors in various classes on Fort Sill, and am encouraged by these engagements. These are bright and enthusiastic young women and men who have volunteered to serve their nation; we are lucky to have them in our branch. Our commitment going forward is to present these Redlegs with opportunities for life-long learning, mentoring and advocacy. While we are doing well in many of these areas, we still have significant challenges to overcome. Fourteen years of continuous conflict have changed the way we conduct our missions and training. Additionally, our young leaders absorb and retain information in different ways than past generations of Soldiers. As a result we need to continue to evolve and develop enhanced methods to effectively coach, teach and mentor Redlegs. They need to know what

right looks like— on and off the battlefield. As we focus on combined arms maneuver and wide area security, we can't let garrison and training processes falter. As professionals, we must be masters of all aspects of our environment. It is critical that we ensure that we're developing competent, confident, agile and adaptable leaders who have the skills to navigate in any environment.

Our division artilleries, field artillery brigades and battlefield coordination detachments are out front in this initiative and have empowered a lot of change. These formations, led by our colonels and command sergeants major, are quickly becoming experts again, addressing a number of concerns regarding the core competencies of our branch. This trend will continue, as will the recognition by our division, corps and Army service component command leaders of the importance of these headquarters as significant combat multipliers. They are indeed doing well, but we must continue to support and resource them so they are able to routinely do all that our maneuver forces need them to do as well as serve as experts on standards and competencies. One successful endeavor in this area is the Joint Air Ground Integration Cell (JAGIC) construct. As JAGIC concept within the divisions continues to develop, it is imperative for those units going to mission command training programs to continue cross talk and to make sure they share their lessons learned with the force at large. One initiative we will soon bring back to aid in training gaps associated

with JAGIC is the Joint Operational Fires and Effects Course (JOFEC). We are working to resource and re-establish JOFEC with modernized Fires curriculum; more on that in the next edition.

In order to gain further competencies, we must continue to explore advanced opportunities for training in domains; live, virtual and constructive. The Fires Center of Excellence team is working with the Maneuver Center on the next generation of simulations with Soldier Virtual Training to help define the future synthetic training environment. As we do this, we must make sure Fires is accurately represented and integrated in maneuver simulations and training. As resourcing and funds become more limited, and technologies become more advanced, it is vital that we advance our understanding and usage of simulations systems.

In closing, I would like to formally welcome our new field artillery command sergeant major, Command Sgt. Maj. Berk Parsons, a seasoned senior NCO who brings tremendous energy, stamina and experience to the team. In the next few months, he and I will be out and about visiting various units. We have an aggressive schedule and as I have mentioned, my intention is to regularly reach out and maintain open, candid and professional dialog. Your thoughts and opinions are important to the team here at Fort Sill and for the advancement of our branch in the coming years. Thank you for being part of the team.

King of Battle! Fires Strong!

New Fires Bulletin App

The content you expect on your devices.

The journal for U.S. Artillery professionals is changing apps. The resources that you have grown to expect, feature articles on topics that effect you, conversations on current and future doctrine are available for Android and iOS devices.



play.google.com/store/apps/details?id=com.magzter.firesbulletin



itunes.apple.com/app/id1146851827

Fires Training and Doctrine Portal On the Fires Knowledge Network

FKN FIRES
**KNOWLEDGE
NETWORK**



View the video: <https://youtu.be/EUxJSI75Mrs>

Your Knowledge Management Team would like to introduce you to the Fires Training and Doctrine Portal link on FKN. The mission of the Directorate of Doctrine and Training is to provide Fires training, education, leader development and doctrinal products at the point of need to our Fires force; provide the highest quality products to support lifelong learning and knowledge sharing across the institutional, self-development, and operational training domains.

Start today! Using your Common Access Card (CAC) enabled device, visit <https://www.us.army.mil/suite/page/130700> and click on the Fires Training and Doctrine Portal link (left side of the slider) to get the Doctrine and/or Training Information You Need.

“One Learns, Everyone Knows”



The human dimension

The foundational investment

By Lt. Col. Todd Schmidt

It is terribly difficult for military men to keep their methods adapted to rapidly changing times. Between wars, the military business slumps. Our people lose interest. Congress concerns itself more with cutting down the Army than with building it up. And the troops... find a large part of their time and energy taken up with caring for buildings, grounds and other impediments. In view of all the inertias to be overcome, and in view of the fact that our lives and honor are not in peril from outside aggression, it is not likely that our Army is going to be kept in an up to the minute state of preparedness.

1929 Officer's Diary

Introduction

Alarm bells are ringing. Warfighting readiness is suffering. The Army is confronted with a political-economic environment challenged by limited resources, continued rotational deployments and persistent conflict, the grinding gray zone between war and peace.¹ As a whole, the Army is facing continued down-sizing and is perched upon, if not tumbling down, the proverbial “fiscal cliff” of sequestration, funded by an unpredictable Continuing Resolutions process. There appears to be no strategic pause in conflict on the horizon, either in the international or domestic political arenas.

During interludes of peace or even while engaged in the gray zone between war and peace, it is important to remain focused on ensuring a balanced investment portfolio considering both short-term, as well as, and more importantly, long-term gains. History admonishes this balanced strategy. Unfortunately, too often the “quick win,” the short-term gain, is sought at the cost of the prudent long-term investment, particularly when it relates to investments in organizational, operational and individual agility and adaptability – the human dimension.

Both short- and long-term gains and advantages must be taken into account. Investments in modernization initiatives are critical to maintaining our technological advantage. However, investing in the training and education of our Soldiers is the most important long-term investment that can

be made. And, although the pay-offs and returns may not be readily visible, quickly realized or may even be diluted by poor talent management, the training and education of the force is the foundational requirement enabling technological and modernization programs.

Recently, the Commandant of the Air Defense Branch, Brig. Gen. Randy McIntire, took the leadership reins of the branch and immediately communicated his approach and priorities moving forward during his tenure. Underpinning his top priorities was the imperative recognition that success hinges on the human dimension. “We must invest in our most precious resource, people,” he stated. Continuing to create technical and tactical experts in our craft and on our equipment is critical to enabling modernization. For the air defense branch to transform, for organizational change to be successful, and to fully leverage future technology and modernization requires, as McIntire argues, an “educational shift ... ensuring Soldiers are well positioned to be flexible and adaptive leaders prepared to meet future requirements.”

Fires Soldiers must be able to lead and adapt against a skilled and determined enemy under any environmental condition. To fulfill this imperative requirement and duty demands significant investment in the human dimension. However, this takes a comprehensive approach and significant and dedicated intellectual involvement.

Opposite page: Soldiers from 1st Battalion, 41st Field Artillery Regiment, 1st Brigade Combat Team, 3rd Infantry Division stand in formation during the opening ceremony of the exercise Flaming Thunder, Aug. 1, 2016 at Pabrade, Lithuania. The Soldiers from 1-41 FAR are training with their Baltic allies in support of Operation Atlantic Resolve, a U.S. lead effort being conducted in Eastern Europe to demonstrate U.S. commitment to the collective security of NATO and dedication to enduring peace and stability in the region. (Pfc. James Dutkavich/24th Press Camp Headquarters)

Capitalizing on the human dimension is a continuous investment over time, providing professional development, education and career experiences required to be technically and tactically proficient, as well as creative, adaptive and agile thinkers and leaders.²

Excessive invest in major technological advancements and modernizations or organizational structure changes, at the cost of investing in the training and education of Soldiers, can have unfortunate, sometimes tragic, consequences. In a state of constant conflict, coupled with the current seemingly complete disarray of the federal budget process and defense appropriations, how investments of limited resources are made is, once again, a topic of discussion and debate. Recent history, however, may offer some guideposts for a way ahead.

Past investment strategy

Following World War I, under the banner of “Return to Normalcy,” the Army’s personnel strength and budgetary resources had both fallen by nearly 95 percent. The national economy was government’s primary focus and consideration, and the Army did not have enough money to modernize, train and maintain warfighting readiness

and authorized end-strength.⁴ Following WWII, defense spending as a percentage of gross domestic product (GDP) fell from a high of 43 percent to below eight percent of the GDP. From 1968 to 1977, as the Vietnam War was drawing down, the military’s budget declined nearly 38 percent.⁵

Fast-forward to the 1990s. The Army was a Soviet-focused, Cold War-era force, having just achieved victory in the Gulf War. The Soviet Union soon collapsed, however. Recognizing this change, the 1990 U.S. National Security Strategy stated, “change in the international landscape was breath-taking in its character, dimension and pace,” requiring a strategic transformation that would be challenged by political turbulence, uncertainty, unknown sources of instability, and an “advance into historically uncharted waters.”⁶ To face this uncertain, complex and chaotic future, the military would be required to implement policies to achieve drastic reductions and restructuring.⁷ There was a prevalent expectation of a “peace dividend.”

Congress and Department of Defense mandated budget cuts of four to six percent from 1991 to 1994.⁸ The Joint Chiefs of Staff, advocated significant reductions of 11 to 17 percent in the size of the military in “The Base Force Study” and the “Bottom-Up Re-

view.” The burden of these manpower reductions would fall disproportionately on the Army, resulting in a downsizing from 18 to 10 active-duty combat divisions.⁹ Senior leaders generally agreed that it was imperative the Army transform during this period.¹⁰ The transformation envisioned would weigh heavily on organizational structure, modernization and technology investments.

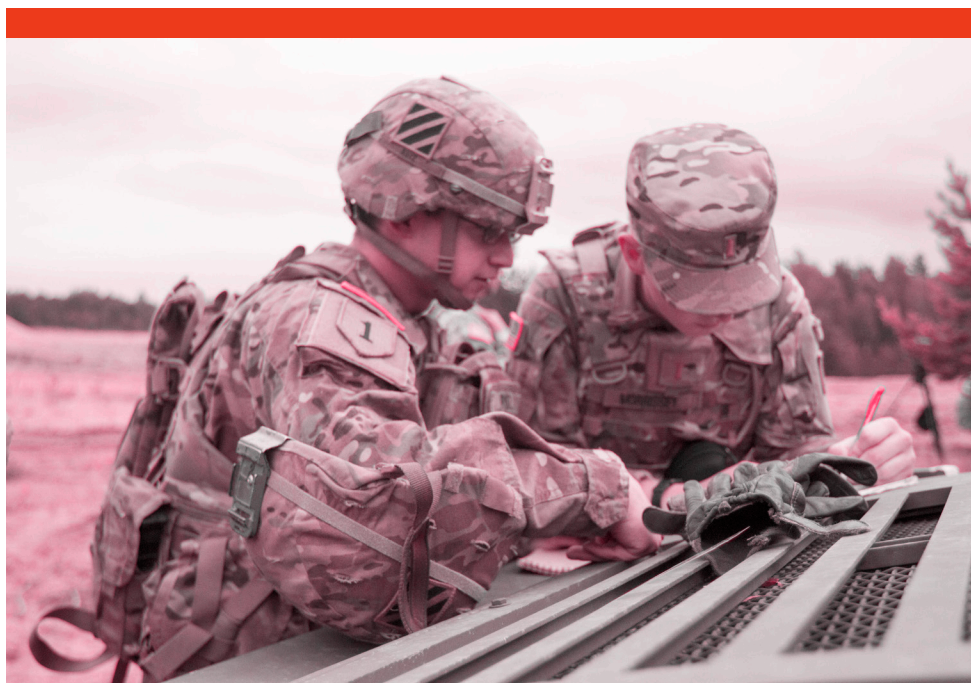
The Army adapted its organizational structure through several evolutionary initiatives. These organizational adaptation initiatives included “Force XXI,” “Army After Next,” and “Army Transformation.” Underpinning the logic and rationale for this transformation effort were lessons learned from recent conflict and combat operations in the Gulf War; perceived organizational shortfalls; assessments of future threats and operational environments; technological and informational advancements; and prescribed changes based on the political and fiscal environment.¹¹

The Army of the 1990s placed a premium on investing in and transforming the Army’s organizational structure, as well as revolutionary technological advances and capabilities that would change the character of how future wars would be waged. This revolution in military affairs, as it was dubbed, came at the cost of billions annually, and led to the important developments of precision-guided munitions and GPS, all enabled by networks of datalinks sharing information in increasingly larger volumes and increasingly faster speeds.¹² These investments, however, came at a price. The “bill payers” were the human dimension, development of the Army profession, education, and evolving the Army’s organizational culture to be better intellectually, mentally and psychologically prepared for the types of warfare the Army would face in a post-9/11 world.

Post 9/11 investment strategy

In the late 1990s and at the turn of the century, there was a great deal of thinking, analysis and writing on the subject of organizational adaptation in relationship to the individual. In 1996, Harvard business consultant John Kotter began proposing the idea of “first who, then what.” In “Leading Change,” Kotter wrote that in order to lead successful organizational change, a guiding team and coalition must first be established and built on mutual respect and trust. One

U.S. Army Fire Support Specialists assigned to Company C, 3rd Battalion, 69th Armor Regiment, 1st Armor Brigade Combat Team, 3rd Infantry Division, prepare to call for fire during Exercise Flaming Thunder at Pabrade, Lithuania Aug. 4, 2016. The Soldiers of 3rd Battalion are training with their Baltic allies in support of Operation Atlantic Resolve, a U.S. led effort being conducted in Eastern Europe to demonstrate U.S. commitment to the collective security of NATO and dedication to enduring peace and stability in the region. (Pfc. James Dutkavich/24th Press Camp Headquarters)



of the top reasons for failure in organizational change, and an organization's ability to adapt, is neglect in first educating, developing, and building an organization of professionals.¹³

A few years later, in 2001, Jim Collins, author of "Good to Great," wrote about the difference between good and great leaders and good and great organizations. Good leaders focus foremost on creating an organizational vision and a procedural roadmap, followed by building and developing the team necessary to accomplish the mission. Great leaders focus foremost on building and investing in their people. He advocated that great organizations invest, first and foremost, in the development of the workforce, identifying exceptional talent, and ensuring a culture and environment in which they could succeed. This was postulated as the recipe for achieving greatness and successful achievement of long-term organizational vision, mission and values.¹⁴

Studies and analysis of large private sector businesses, organizations and corporations were beginning to demonstrate that leaders and organizations fail to learn and adapt because culture and leadership put more emphasis on treating symptoms versus understanding and solving limiting factors and underlying problems. These organizations perform inconsistently over time, focusing on symptomatic versus fundamental issues and on short-term versus long-term metrics of success. They tend to have a culture of compliance, reward for pleasing superiors and management by fear. They value uniformity of thought versus diversity and detailed planning in an effort to achieve predictability and controllability. Finally, they promote excessive competition in an effort to improve performance.¹⁵

In 2004, one year into his tenure as the 35th Chief of Staff of the United States Army, Gen. Peter J. Schoomaker reflected on professional development, the human dimension and the ability to successfully adapt as an organization in relationship to the first years of the wars in Afghanistan and Iraq. He stated, "I have thought for years that the Army needed to ... change the way we develop leaders ... transformation is not about equipment. It's about intellect; it's about judgment; it's about the development of leaders and Soldiers. You've got to make that intellectual transformation before you can make the visible transformation."¹⁶

Establishing a sense of continuity in the Army's infant human dimension initiative, particularly with an emphasis on the Army

profession and ethic, Schoomaker's successor, Gen. George W. Casey, Jr., established the Army Center of Excellence for the Professional Military Ethic in May 2008. This Center later migrated to the Army's Training and Doctrine Command, redesignated as the Center for the Army Profession and Ethic in August 2010. After a decade at war, Army leadership understood that the organization needed to revisit, rediscover and more fully comprehend its own culture and the human dimension in the context of that organizational culture.

Simultaneously, in 2010, the Army War College published a study on Army organizational culture. It investigated Army organizational culture in relationship to the professional development of future strategic leaders and the potential divergence between how Army leaders see themselves and how they are trained, developed and educated, versus how they expected to best survive in a future operational environment. The study proposed "the ability of a professional organization to develop future leaders in a manner that perpetuates readiness to cope with future environmental and internal uncertainty depends on organizational culture." This hypothesis was based on the assumption that organizational culture enables growth in the human dimension, investing in education and professional development, and, particularly, in the ability to adapt; an organizational culture that emphasizes education and professional development perpetuates adaptability and promotes relevance and continued existence. The conclusion was alarming – Army leadership "may be inadequately prepared to lead the profession toward future success."¹⁷

Army War College students who participated in the study were asked to characterize the Army's current organizational culture. These students generally believed that the Army, as an institution, valued stability, caution and control; rigid formality, rules and policies; coordination and efficiency; short-term goal-setting and results-oriented performance; and hard-driving competitiveness. However, when these future strategic leaders were asked to characterize what the Army's organizational culture should be, in the context of a complex and chaotic future operational environment, values they found to be imperative to success included flexibility and discretion, collaboration, innovation and creativity, risk-taking, long-term emphasis on professional growth and human resource development. This incongruence and disconnect is cause

for concern.¹⁸ If the Army is to continuously and relentlessly develop the human dimension, adapt to survive, to remain relevant and ready, and to win our nation's wars, it requires an organizational culture that values and self-perpetuates organizational adaptation and development and education of its human resources.¹⁹

In a resource constrained environment, the Army's ability to adapt and implement change is significantly inhibited. The Army must increasingly compete and lobby for political favor and support in order to secure funding and resources.²⁰ As previously noted, how funding and resources are invested is clearly a complicated balancing act. The risks of getting it wrong are uniquely high when failed investments may lead to future loss of Soldiers' lives.²¹

To this end, the Army must make balanced investments. In the complex debate on how resources are invested, readiness, modernization and quality of life programs and initiatives are all competing interests.²² Within this portfolio, training and education of Army professionals must be at the top of the list. This is critical because for leaders to be successful, they require the education, experience and ability to understand the context of the problems and challenges they face, historically, politically, diplomatically, socially, militarily, strategically, operationally and tactically.²³

Moving forward

The 2012 Army Capstone Concept (ACC) describes the future operational environment and the roles, responsibilities and capabilities the Army, as part of the joint force, will be required to fulfill and provide in order to maintain a position of continuous advantage over potential adversaries. To be successful in this challenging environment, Army leadership understood, more than any technological modernization program or organizational structure change, it must improve how it manages in the human dimension, how it approaches and conducts accessions, initial training, career management and personnel policies. It is critical the Army improve its talent management to ensure maximization of individual potential in order to maximize its investments in the human dimension over the long term.²⁴

Just as Americans expect a "peace dividend" in times of relative peace, so the Army must not squander the true "war dividend" of the past several years – the combat experience of our Soldiers and leaders. Ensuring that we retain their irreplaceable experience

and precious lessons learned, paid for by national treasure and tragedy, is critical to success and continuity. The Army's best and brightest combat veterans must be retained as the backbone that will soon become the next generation of strategic leaders.²⁵

The Army's Statement on the Posture of the United States Army 2016 echoes and reinforces the 2012 ACC, describing an operational environment of persistent conflict and ever-increasing uncertainty, unpredictability, complexity and disorder.²⁶ Adversaries in the operational environment include peer competitors; non-state, transnational terrorist and criminal organizations; super-empowered individuals; or networks and coalitions made up of a combination.²⁷ They threaten and challenge U.S. security conventionally and unconventionally in every element of our national power. These hybrid threats are diverse, dynamic and adaptive combinations of conventional, unconventional and criminal elements acting in full concert, with unrestricted violence on unrestricted targets, within failed and ungoverned regions of the world.²⁸

Given this challenge, the Fires community must advocate for an institutional and operational force consisting of organizations, leaders, Soldiers and civilians trained and educated, exhibiting and imbued with the principles of organizational, operation-

al and individual adaptability.²⁹ Gen. David G. Perkins, U.S. Army Training and Doctrine Command commander, echoes and reinforces Schoomaker's previous statement in 2004, stating that people – Soldiers and civilians – are the number one capital investment of the Army. The Army succeeds because of "well-trained, well-educated, well-led professionals dedicated to the Army Profession."³⁰ Organizational and operational adaptability are dependent, first and foremost, on developing the human dimension.

Still, there remains entrenched cultural hurdles within the Army that hinder, impede or detour priorities in training and education. These investments do not provide high visibility, short-term gains. Successful development of the human dimension and organizational adaption is a continual, constant requirement and commitment to recurring reappraisal and quest for understanding of a changing environment, changing threats and changing international landscape. It involves constant, comprehensive internal auditing of core competencies, approaches to problem-solving, and key requirements, capabilities and resource allocations required to lead and achieve successful change. For the Army, units and Soldiers, it requires a vigilant and dedicated commitment to directing organizational

inertia towards constant innovative evolutions in how the Army thinks, talks, writes, fights, equips, resources, organizes, trains, bases, houses, mans and deploys.³¹ It is hard intellectual work, increasingly imperative, particularly in the context of the Army's commitment to empowering leaders through "mission command," a core operational concept the Army has adopted moving forward into the future.

A "mission command" philosophy and approach requires the Army to educate, develop and train adaptive leaders. Through "mission command," adaptive leaders are trusted, encouraged and empowered to exercise initiative and judgment in how they carry out their assigned task.³² "Mission command" designates the adaptive leader as the essential building block. Given this concept, the military education and professional development system become immensely important.

The focus of education and professional development must be on developing the organizational and individual's ability to learn from past experience, anticipate the future and adapt to unexpected circumstances. Today's tactical leaders and tomorrow's operational and strategic leaders must be engaged and possess a greater ability to communicate and react to their understanding of the human dimensions in war.

An officer from the 308th Brigade Support Battalion, 17th Field Artillery Brigade jumps from a CH-47 Chinook during a Mungadai July 22, 2016 on Joint Base Lewis-McChord. The Mungadai tested Thunderbolt leaders during 17 events spread across 11 hours of competition. (U.S. Army photo by Capt. Pete Mrvos, 17th Field Artillery Brigade Public Affairs)



Focusing on individual-level education and professional development is the sine qua non building block for developing adaptive leaders that exercise initiative, adapt to fluid circumstances and exercise “mission command.” Adaptive leaders are the cornerstone in building and developing learning organizations that are organizationally and operationally adaptive.³³

Conclusion

Building and developing the human dimension as the foundational investment must be the approach. Priorities that do not first consider the human dimension are doomed to fail. It may seem naïve to suggest building the Army’s investment portfolio founded on this however, without that foundational tenet behind any capital investment, short-term gains are quickly overcome, if not lost. Leading successful efforts in the human dimension and in organizational adaptation, requires understanding that the most difficult challenges are

internal. Changing the way an organization thinks, learns and acts takes the greatest intellectual, bureaucratic and political skill, effort, discipline and leadership.

For the Fires community, responsibility for intellectual preparation for future conflict is, foremost, on the individual, the professional Fires Soldier. It is the Soldier’s duty to prepare, study, demonstrate intellectual curiosity and embrace self-development. Soldiers must be professionals, possess a sense of belonging to a profession, and actively contribute to the betterment of the profession.³⁴ Soldiers must consistently seek to learn, share, collaborate, and improve themselves, each other, their unit and the Army organization as a whole. In return, the Army enables the Soldier. The Army provides the resources, requirements and opportunities and the long-term investments in training, education and professional development.

The future, more so than in the past, demands a human dimension made up of

Soldiers, civilians and leaders that adapt swiftly in fluid environments.³⁵ The greater the uncertainty the Army faces in the future operational environment, the greater range of skill sets Soldiers will be required to possess. For the Army to achieve adaptability at the organizational and operational levels requires adaptive leaders and an organizational culture that places emphasis, priority, and investment in training, education and learning.

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The S-3/XO Challenge

Quickly getting to what is important

By Maj. Jeffrey Porter

You just sat down in your office as the operations officer or executive officer of your new battalion--what are you supposed to do now? This often whispered question usually bounces around the walls of an empty office and is never answered in time for new S-3 (operations) officers and XO's to get off to a running start. So what is important? Where should you focus your time as you navigate through what is likely your most significant professional challenge to date? To help shape a thoughtful approach this article combines and categorizes the "wish I would have's" of recent operations and executive officers in tactical battalions across several types of organizations while building combat power and mission essential task list proficiency prior to deployment. When applied to your specific context, and executed aggressively, this approach can get you and your staff quickly past the proficiency lull often associated with frequent leadership turnover and off to a running start.

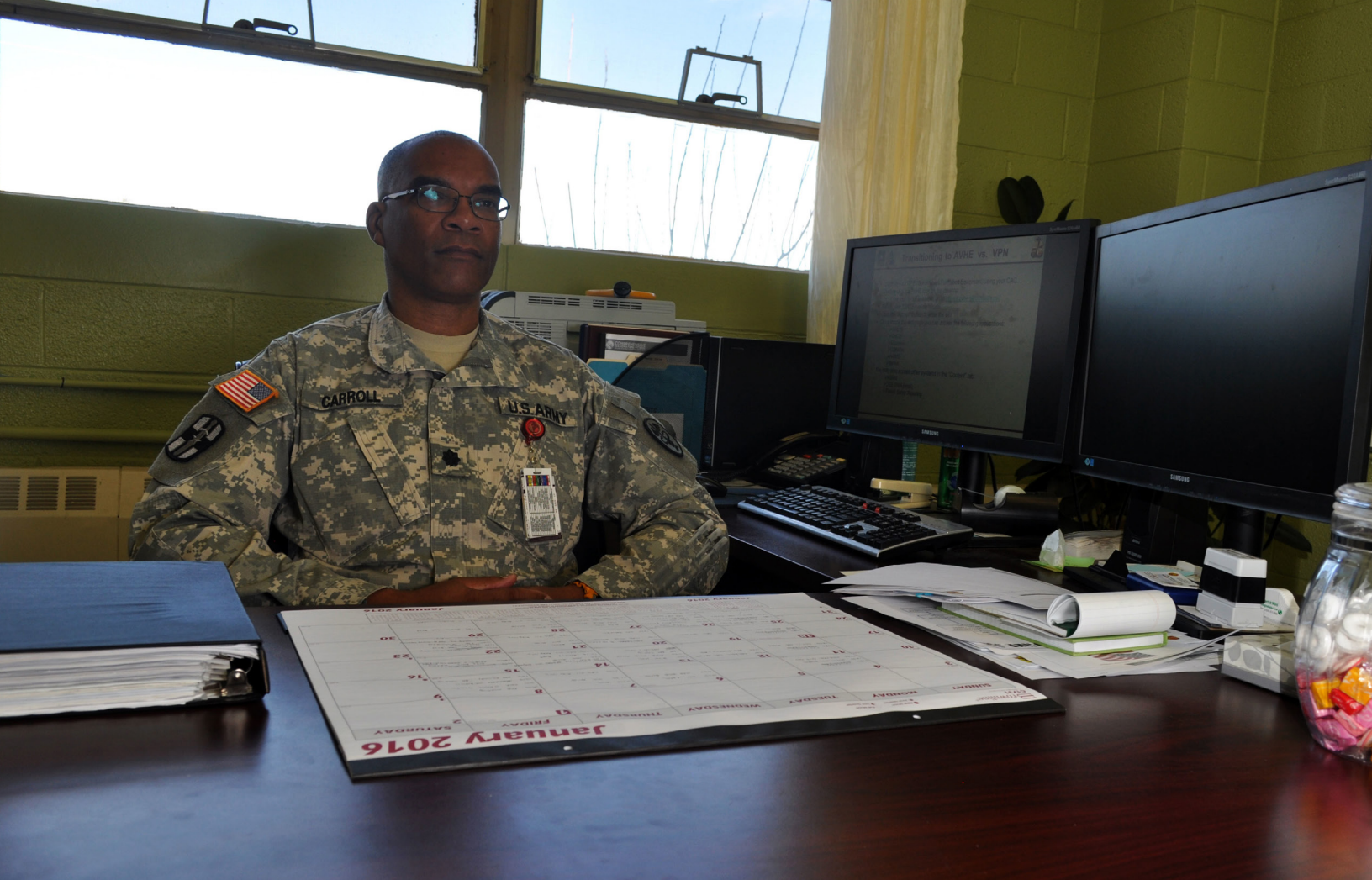
Build a relationship with the boss

First and foremost, build a working relationship with the commander and command sergeant major. These two leaders will drive the mission command operations process, keep the operations officer and executive officer confident that they have the right intent, and will set the foundation for how the unit functions. As one of the key leaders on the staff, you must quickly gain their confidence through professionalism, timeliness and initiative. If you don't have a "Big 5 Huddle" (commander, command sergeant major, executive officer, operations officer and operations sergeant major) on your calendar, get one as soon as possible. More to follow on how to use that meeting effectively in the battle rhythm discussion. Routinize your personal touch-points with the commander and command sergeant major over the course of a duty week — these usually don't need to be scheduled, but you also don't want to catch them when they are busy. Take notes on guidance delivered during your touch points. The commander has the greatest sweep of vision and will likely recognize something as important well before you do. To set your boss up for success, make sure you understand his boss's priorities, the best tool for doing that is to understand and keep the "two levels up" training guidance in your daily notebook.

Talent manage staff

Intellect, ability and proactive energy is different among each individual on your staff. Shortly after (or before) assuming duties, review the staff manning by section and person. It is often

Maj. Frank Hooker (center), 3rd Cavalry Regiment executive officer, walks with Gen. Robert Abrams, commanding general, U.S. Army Forces Command, while briefing the regiment's mission Feb. 25 at the National Training Center, Fort Irwin, Calif. (Staff Sgt. Tomora Clark, 3rd Cav. Rgmt)



Lt. Col. Michael Carroll sits at his new desk after taking a new position with the 7203rd Medical Support Unit. (Ismael Ortega, DPTMS Fort Bliss, Texas)

helpful to bring the S-1 (personnel) officer into this process to update you on personnel timelines for PCS, expected promotions, etc. Your goal should be to optimize efficiency by ensuring the right mix of intellectual ability is complimented by logical “know-how,” experience and proactiveness. If left unchecked, your manning for collective training, mission rehearsal exercises and deployments will not be optimized by shift or situation and your effectiveness will suffer. If your talent management is thoughtful and you are armed with early guidance from the commander, you can task organize your staff for success across the functional and integrating cells, bringing the synergistic power of the warfighting functions to bear.

Most units fail to shore up their staff weaknesses with talented NCOs. This leaves the preponderance of the burden on over-utilized officers who have shown ability and drive. Once you complete your staff talent management assessment, which will likely take several weeks as you get to know your staff, address the command sergeant major on recommendations to fill talent gaps in sections, cells, working groups and

on shifts. Once you have his or her buy-in, update the commander on actions you plan to take to optimize the staff’s ability to conduct mission command.

Examine training management cycle

Getting intent and information out of the headquarters on time requires a collective and focused effort. The proof of failure is easily observed in poorly executed training and company training boards without training schedules. Put yourself back in the

boots of a company commander. You owe training schedules to the battalion S-3 shop for the first review at T+8 so there is time for corrections in Digital Training Management System during T+7. Then, your battalion commander signs them and your orderly room prints and posts them six weeks ahead of time (T+6). To give the companies a fighting chance at that timeline, the battalion must churn the event through the beginning of their operations process and publish a mission-type order by the beginning of T+9. Reasonable minds will disagree,

An example of a training management battlespace. (Rick Paape, information Maj. Jeffery Porter)

Company	T+1 - T+6	Training schedules posted
		Toop leading procedures ongoing
	T+7 - T+8	Training schedule development, review and sign
Battalion	T+9	Battalion operation order (OPORD)
	T+10	
	T+11	Battalion “Big 5”
Brigade	T+12	Brigade OPORD
	T+13	
	T+14	Brigade “Big 5”



LV 2 EDRE CONOP



1. Situation:

3-4 ADAR is responsible for CEF 2 short notice deployment readiness using resources and facilities available at Fort Bragg, NC. Forty eight hours are allotted to meet exercise OBJs.

2. Mission:

3-4 ADAR conducts a LV 2 EDRE from 11-12 JUL 13 at Fort Bragg, NC, IOT validate the Battalion's ability to execute a rapid deployment sequence.

3. CDRs Intent:

Purpose. Purpose of the operation is to validate 3-4 ADAR's capability to deploy as a Contingency Expeditionary Force according to FORSCOM and 32nd AAMDC guidance.

Key Tasks:

1. Alert/Assemble
2. Conduct Internal SRP
3. Draw, prepare, and pack go to war stocks (Dummy loads for shortages).
4. Inventory/prepare to turn over property/barracks and POVs
5. Air-Lift and land ½ of Alpha Battery's MEP via C-17 (ADACG to Holland DZ)

Endstate. At the conclusion of this operation 3-4 ADAR will be postured to rapidly deploy within 32nd CEF and GRF guidelines.

Concept of the Operation:

Decisive Operation:

T: Process Alpha Battery's MEP for rapid deployment, Air-land ½ the MEP on Holland DZ

P: Demonstrate end-to-end rapid deployment proficiency with rep. sample

Shaping Operations:

SO1: T: Process Bravo-Echo for rapid deployment, culminate short of MPA Ops

P: Demonstrate rapid deployment proficiency/refine DO practices

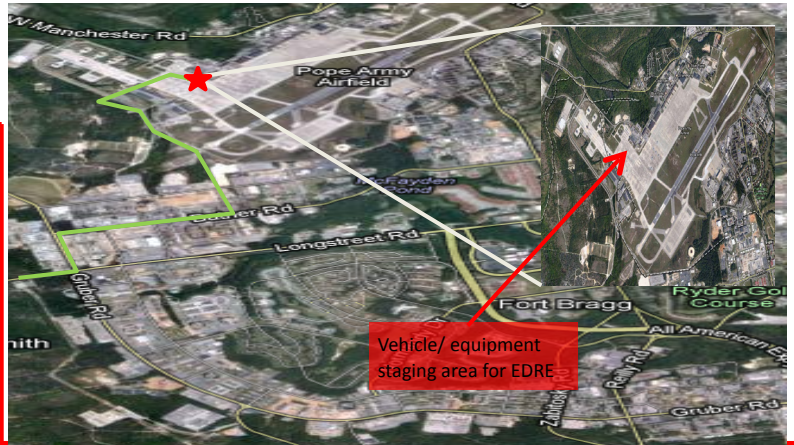
SO2: T: Conduct ADACG recon/rehearsal on 9 May)

P: Create/preserve conditions for decisive operation

Sustaining Operation:

T: Conduct cleaning and J/I of Alpha Battery MEP

P: Generate combat power for decisive operation



Tasks to Subordinate Units:

Alpha

- (a) Provide Clean/Serviceable MEP package for airlift
- (b) Attend ADACG Recon with 1xHMMWV on 9 May.
- (c) Draw go to war stocks (use dummy loads as appropriate)
- (d) Inventory Equipment/Barracks/POVs for rapid turnover

Bravo, Charlie, Delta, Echo, SVC

- (a) Integrate UMOs with A Btry during MPA and ADACG Ops
- (b) Verify go to war stocks
- (c) SRP Personnel
- (b) Inventory Equipment/Barracks/POVs for rapid turnover

Task to Staff

- (a) Set up EDRE mission command node
- (b) Schedule COMET team for MPA OPS from 11-12JUL
- (c) Track/present information and data
- (d) Capture detailed lessons learned

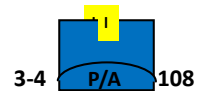
Exercise OBJs:

1. Process and Air-land ½ of a Patriot MEP on Holland DZ
2. Process 7 subordinate batteries through internal SRP
3. Validate go to war stocks/container req'ts
4. Exercise rear detachment property turn-over
5. Process barracks rooms and POVs for rapid pack/storage
6. Incorporate external (COMET) assessment in MPA Ops (SVC BTRY Leads J/I plan/execution)

Timeline:

- N+0= Recall Initiated
- N+2= Key Leader brief
- N+4= 100% Assembled
- N+5= SRP Begins
- N+5=MPA Ops MEP 1
- N+6= RFLs submitted
- N+8= Activate Rear-D
- N+8= MEP 1 staged at ADACG
- N+15= Update Brief
- N+17=Process Barracks/POVs
- N+24= Inventory Split property
- N+28= Update Brief
- N+30 = Family Dep. Brief (York)
- N+32 = Verify COMSEC
- N+38= Update Brief
- N+45 = Lessons learned captured
- N+48= ENDEX

Task ORG



-COMET Assessors
-BDE Transportation Officer

An example of a concept of the operation brief. (Courtesy illustration)

but battalions need around three weeks to plan their concept of the operation, seek the commander's intent at their "Big 5" meeting and accomplish necessary coordination with external organizations. That means brigade battlespace ends at the T+12 week, so plan your "Big 5" meetings accordingly (see graphic).

Influence battle rhythm

Many of us get confused on the intent of maintaining a daily battle rhythm. It is an exchange of relevant information to drive positive action for synchronization or to inform a decision. The outputs of foundational-level battle rhythm events, such as working groups, are captured as inputs to higher-order events such as the operations officer's synchronization meeting. Unfortunately, battle rhythms usually turn out to be an effort by the subordinate unit to match the meetings schedule of the higher echelon unit. The result of this effort is a calen-

dar filled with meetings that only prepare a briefer, usually the commander or executive officer, to speak at the next higher echelon unit meeting. For example, a battalion command and staff to prepare for the brigade command and staff. Positive action is only indirectly influenced and decision points are rarely discussed.

As a field grade leader who's earned the trust of the commander, conditions are set for you to influence this inefficient cycle. Ideally, staff section leaders brief from their staff running estimates instead of from a slide format that supports only one meeting in the battle rhythm. Staff running estimates are the staff's primary information common operating picture as well as their decision support tool. When proficiency is reached, adjacent staff sections can pull a given running estimate from the unit's portal page and gain the information required for action or to inform a decision. More commonly, staff sections are so bombard-

ed by varying slide formats that they spend their time updating those and ignore their staff estimates. As you build influence beyond your internal chain of command, look to influence this inefficient dynamic. Internally, look to standardize running estimate formats as much as possible, so the commander knows where to look for key information at a glance. Use these formats for internal battle rhythm events, and in time the staff will understand what the commander needs to know and you will teach a cohort of leaders the value of continual assessment.

The most important engagement in the battle rhythm is the "Big 5" meeting. This is the operations officer's chance to get the commander's intent straight and to discuss operations and training events within the battalion's time-based battlespace (T+9 through T+11). The S-3 has to do their homework in order to make this a productive meeting. Building concept of the operation briefs will give the commander what

he or she needs to issue intent. At the end, the S-3 will feel confident signing operation orders on time. Furthermore, the assigned units will have space to conduct their operations process and at the company level, troop-leading procedures, to make the training event successful.

Conduct focused engagements

More in the battalion executive officer's lane, staff synchronization meetings are also meant to be an exchange of relevant information to drive positive action or inform decision. To maximize the value of these engagements, they need to occur weekly, the staff sections should brief from their current running estimates and the executive officer needs to be prepared. This is where "precision comms," the practice of speaking and writing specifically to influence action by an individual or group, then following-up on completion, pays off. The executive officer is normally present at most if not all key battle rhythm events. However, rarely do they publish the follow-up notes with specific identification of who is expected to take initiative. Usually a staff captain sends something out a day or so after the meeting. If the executive officer sends this follow-up note to the staff shortly after the meeting with specific individuals identified to take initiative in a given lane, it sends a wholly different message. The last step of the "precision comms" loop is to follow-up on completion. If an individual hasn't completed the follow-up by the weekly staff sync, the XO, using their printed out e-mail to the staff, simply goes down the line of uncompleted actions to get a current status. These staff syncs are also an opportunity to review the training weeks currently in the battalion battlespace, and for the operations officer to disseminate key points from the last "Big 5" meeting that will enable positive action among the staff.

How many staff syncs on the calendar are necessary to optimize your battle rhythm? Again reasonable minds will disagree, but generally speaking more touch points among the staff are necessary during periods of transition such as a change of mission, change of key leadership, or deployment. In a steady-state garrison training environment the consensus is that one staff synch per week is right.

Develop a maintenance strategy

Also in the battalion executive officer's lane, maintenance management is broad and at first glance — a complex function. Maintenance meetings at brigade and battalion level cover dozens of topics from equipment non-mission capable, to lofty discussions about the item manager's reasoning for not releasing specific parts. Making tangible progress in the maintenance arena can be a daunting task for a new executive officer. After the first collective meeting you will have a sense of what areas need attention. Of these, determine where you can get a quick win to generate momentum, maybe that is with recoverable parts turn-in. Whatever you think it is, communicate that to your maintenance leaders and with the broader group, encourage them to prioritize that effort until you can see clear progress, then attack the next area and keep your momentum going. Update the commander on measurable progress and keep him aware of your approach. Another helpful technique with maintenance management is to visualize challenges in the framework of "3T2P," that is training, tools, time, personnel and processes. Nearly every issue raised in a maintenance meeting can be better understood when articulated in this framework, encourage your subordinates to use it to pose issues in a common context, and get to solutions quicker. If you have a deployment on the horizon or equipment allocated toward a rapid deployment plan, highlight and track equipment planned to go by bumper number in the meeting. You'll want to know about everything from a broken taillight to a catastrophic failure. Lastly in maintenance, don't overlook the Army's low-usage program for stay-behind or rarely used equipment. Be sure to plan ahead because a comprehensive service is required to enroll equipment, but in the long run the program can save your maintenance teams some unnecessary work.

Do the little things right

No one person can cover down on all expected events. Sometimes you will be forced to dynamically task-organize your staff. The question is what did you get back from the staff captain you just sent to the brigade operations synchronization meeting? High-functioning units develop an expectation of back-briefs, either oral or in writing. At a minimum, these briefs cover

a quick bottom-line up-front, key information that is expected to have an effect on the unit, and any specified tasks given.

This same dynamic extends to temporary duty travel. The best units enforce the use of trip reports that inform action and decision. Every trip has a valid purpose, otherwise you would not send them, yet we often let the information obtained on these trips rest solely with the Soldier or team we sent on the trip. These briefs and reports are also a great forcing function to get your staff practice in speaking and writing effectively.

Summary

Start your tour as an operations officer or executive officer with a clear plan of action. Focus first on building a relationship of mutual respect with the commander and command sergeant major — show them that they can trust you to follow through. Then look to your staff and how they interact with each other to generate positive action and inform decisions. Ensure that you are setting the companies up for success by focusing your shaping efforts in the time-based battlespace for your echelon. Enforce the practice of "precision comms" and focused engagements among your staff. Develop and communicate a maintenance strategy to generate and sustain momentum. Track deploying equipment or equipment on a deployment tether by bumper number and in detail. Lastly, place emphasis on the little things staffs are expected to do routinely, such as back-briefs and trip reports. Do these well and you will set your team apart from the pack. At the end of your tour as an operations officer or executive officer, you won't be left whispering a similar question in a once again empty office — did I get that right?

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Capt. Vedner Bellot, assistant chief of staff of G-1, 7th Army Joint Multinational Training Command, sings cadence to his son Zyah Bellot during the Comprehensive Soldier and Family Fitness resiliency training at Grafenwoehr Tower Barracks, Germany. (Sgt. Christina M. Dion/7th Army Training Command)

Overcoming high-pressure performance

A method and insight on mental skills development

By Capt. Joshua Urness

Disclaimer: *The opinions, conclusions and recommendations expressed or implied within are those of the author and do not necessarily reflect the views of the Strategic Studies Group or the Department of Defense.*

Between 2014 and 2016, every single air defense artillery brigade headquarters and battalion in the United States Forces Command deployed overseas. This thought is striking for two reasons: the first is the realization of the vast involvement and strategic nature of the air defense artillery branch, despite withdrawal of U.S. forces from major conflict areas over the last six years; and, the second is that, these forces

consist of only four brigades, composed of a total of 11 battalions. Batteries from these battalions deployed across three combatant commands, providing defense of respective combatant commander's critical assets in over 10 countries.

Requirements placed on these batteries begets a premium on time. Two challenges that propagate this premium are the high volume of personnel turnover between deployments, and the substantial investment required to build individual and collective, tactical and technical proficiency. Air Defense Artillery Doctrine (FM 3-01.86) prescribes a 180-day period within which, a Soldier must certify and advance through

individual and collective tasks, culminating in a collective battery certification, enabling them to deploy and execute their wartime duty. A key point of failure for individuals undergoing this training is demonstrating their proficiency in high pressure, realistic training environments, designed to replicate combat ardor. Specifically, many Soldiers fail to cope with the physiological onset of "fight or flight," resulting in a limited ability to recall skills and knowledge that they were previously equipped with. Observation of this phenomena brought to light a critical training gap, and the emergence of a growth area with tremendous potential for making training more efficient.

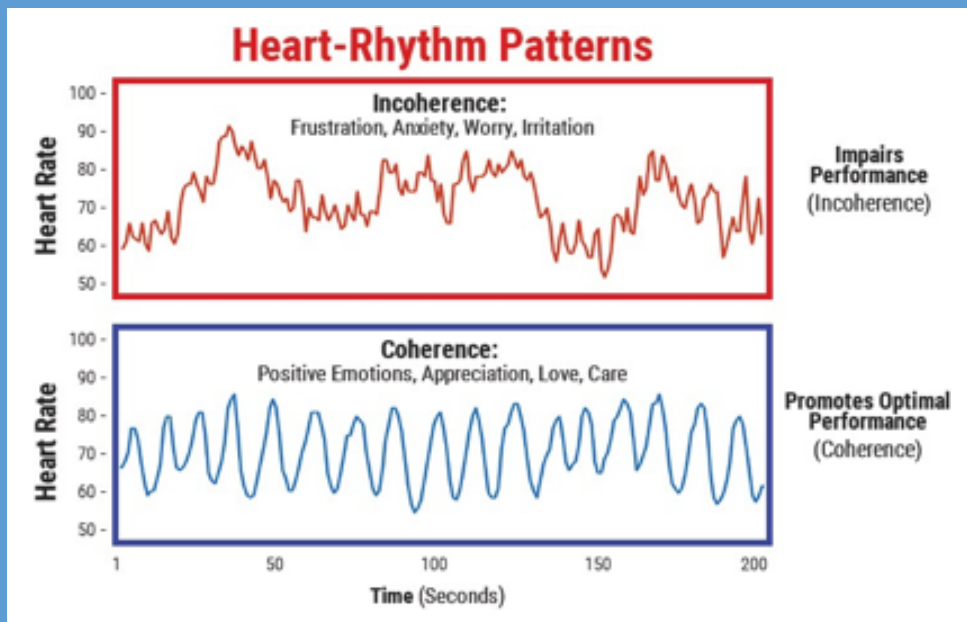


Figure 1. Heart-rhythm patterns. (Courtesy illustration)

This paper proposes a solution to the problem of how we equip Soldiers to perform in high pressure environments by describing a training concept that leverages mental skills, rooted in human performance optimization. This concept is a replicable, measurable and economically feasible solution to developing confidently performing Soldiers, while seeking to attain individual and organizational level expertise in a time constrained environment.

Curriculum overview

When preparing Soldiers to perform in a war-time environment, or in a challenging and realistic training environment, we need them to be at their best mental state. We want to see them perform like finely tuned athletes. Many professional sports teams use sports psychologists that teach their players certain “game-time” skills that assist them in mental preparation. The best resource that I found that could replicate the type of conditioning and engagement that professional athletes receive was the Comprehensive Soldier Family Fitness (CSF2) program. This program is Department of Defense funded and staffed by Master Resiliency Trainer Performance Experts (MRT-PE). MRT-PEs are equipped to train a wide variety of performance enhancing skills at no cost to the requesting unit.

We worked with the MRT-PEs to design a scalable training program that, with the support of my chain of command, could be given to all of the crews in our battalion. This training attempted to help increase self-regulation strategies in Soldiers, tied

specifically to air battle operations. Extensive research links these self-regulation techniques, specifically, getting oneself into a state of high heart rate variability (HRV) to higher cognitive performance and memory recall (McCraty, Atkinson, Tomasino, & Bradley, 2009).

As it applies to this discussion, when a Soldier is performing in a high pressure environment, and their brain (specifically their amygdala and hypothalamus) perceives a threat or harmful event (i.e. performance anxiety), their pituitary gland secretes cortisol and adrenaline hormones throughout their body. This has several physiological effects, including increased heart rate and breathing, and increased focus resulting in tunnel vision. Attention, memory recall and cognitive ability to conduct detailed tasks becomes limited. To gain additional understanding of this phenomenon known as “fight or flight,” more information is available at the following website: <http://www.health.harvard.edu/staying-healthy/understanding-the-stress-response>.

Heart rate variability (HRV), when measured by an EmWave monitor, assesses coherence of heart rhythm patterns. High-HRV is associated with coherence and is what we are trying to achieve because it promotes “optimal performance.” Low-HRV, associated with incoherence or low coherence, is characterized by a much more erratic heart rhythm and is reflective of the physiological effects that we are trying to minimize through the training program. Both of these phenomena are portrayed in Figure 1, also accessible on the Heartmath website at

www.heartmath.org/research. NOTE: Heart rate variability is not a measurement of only heart rate, it considers the peaks and valleys between inter and intra-beats in your heart rate, as pictured in Figure 1. Coherence has the look of a sine wave, longer peaks and valleys; incoherence has rapid and erratic peaks and valleys. The degree of the erratic peaks and valleys shows the physiological effects of what we are discussing.

The training program lasted a total of four days: days one and four focused on developing a quantitative baseline reading of the intervention and control group crews; days two and three were focused on a total of five hours of instruction with practical exercise and two iterations of an air defense specific, mental obstacle course (discussed below). NOTE: Though both the intervention group and the control group conducted air battles on the first and fourth day, the intervention group was the only group that received the mental skills and obstacle course training, the control group received neither. One of the points of emphasis for this training was ensuring the curriculum, means of instruction and assessment of progress was achievable, measurable and could be easily replicated by other CSF2 training centers. CSF2 has a set performance enhancement curriculum that can be tailored to specific units by MRT-PEs. Therefore, the only area of concern was measuring the Soldiers’ progress.

The team settled on biofeedback technology, the previously explained EmWave Monitor, as a means of measurement, which is available at all CSF2 training centers. The chosen biofeedback technology measures heart rate variability (HRV) through a real-time algorithmic analysis of the inter and intra-beat changes in one’s heart rate. Research shows having consistent high HRV indicates an ability to regulate energy levels efficiently, leading to higher levels of cognitive functioning (McCraty, Atkinson, Tomasino, & Bradley, 2009). This technology gave the team the ability to find a baseline of each Soldier’s ability to effectively and efficiently manage their energy, then determine a positive or negative change in HRV. To better measure the effect of mental skills training, a control group was used for comparison. The control group consisted of the top performing crews from A Battery, 2nd Battalion 43rd Air Defense Artillery; B Battery, 2-43rd ADA, and C Battery, 2-43rd ADA. This group did not receive the education, nor did they run through the obstacle course. The assumption was made that these highly pro-



Soldiers from Keller Army Community Hospital's Operation Room participating in the Leaders' Reaction Course, West Point, N.Y. (Robert Lanier, Keller Army Community Hospital)

ficient crews were already implementing self-regulation techniques on their own.

Measurements for HRV took place on day one and four, prior to and after each of the four air battles, for every ECS crew member in 2-43 ADA. The air battles were created specifically for this training. The air battles ran in a sequence of 1: easy, 2: difficult, 3: difficult, 4: easy. The measurement of easy versus difficult air battles was based on the number of decisions a crew had to make during the 20 minute air battle sequence. Easy air battles generally consisted of seven to 10 decisions, and were often simple in nature (i.e. engagement of tactical ballistic missiles, in a volley, that classify as tactical ballistic missiles and meet all essential criteria for engagement). Difficult air battles contained between 10 and 20 decisions, several of which were complex in nature and led to branches or sequels from the original problem set. These decisions would include identifying a misclassified track, that meets the criteria of an anti-radiation missile, or, slewing to engage a threat, with multiple other threats already being tracked on the operators scope.

Mental skills defined

The instructed curriculum consisted of five hours of ADA-tailored mental skills

training. The specific skills focused on were: Mental Skills Foundations, Energy Management, with further instruction on Attention Control, Building Confidence and Imagery. These skills were chosen to accommodate the specific performance needs of each of the crew members as they execute their wartime tasks. These skills, and our assessed benefit to the crews are listed below:

1. **ENERGY MANAGEMENT AND COHERENCE:** Effectively mobilize and restore mind-body activation to thrive under pressure
BENEFIT TO CREWS: Learning how to properly self-regulate one's physiology and achieve a coherent state prior to and in the midst of an air battle can allow for increased cognitive performance while stressed. More specifically: enhanced memory and recall, greater poise and composure and more effective critical and adaptive decision making.
2. **MENTAL SKILLS FOUNDATIONS:** Set the foundation for optimizing skill development and performance
BENEFIT TO CREWS: Employing effective thoughts and mindset during performance sets the stage for a more authentic display of competence. The

quality of crew members' thoughts are directly within their control.

3. **BUILDING CONFIDENCE:** Think in deliberate ways to set the conditions for consistent optimal performance
BENEFIT TO CREWS: Confident crew members perform more authentically. Confidence is impacted by one's thoughts and can be enhanced regardless of prior performances.
4. **ATTENTION CONTROL:** Heighten sensory awareness for what is most relevant and keep it there to avoid distraction
BENEFIT TO CREWS: Effective crew members can learn to deliberately focus their attention on the more important aspects of a rapidly changing air battle scenario.
5. **IMAGERY OR MENTAL REHEARSAL:** Mentally rehearse performances to condition the mind and body to perform automatically and without hesitation.
BENEFIT TO CREWS: Using a facilitator that injects random threats, or on their own, crew members can visualize themselves successfully navigating through an air battle under the auspices of executing a mental battle drill. Crew members can also use imagery to mentally practice controlling their physiology, energy and thoughts while fighting.

Course purpose & methodology

The curriculum included a mental fitness obstacle course developed to address the recommendations from the Fratricide Report written by the Army Research Laboratory in 2007. This report, focused on elucidating challenges in air defense artillery training after Patriot engagement fratricides in Operation Iraqi Freedom, identified mental skills weaknesses that they recommended be addressed in the development of future gunnery programs.

The mental fitness obstacle course involved six sequential stations, each targeting a specific recommendation and mental skill. The obstacle course was designed to mimic the physiological effects of increased energy activation (i.e. feeling exhausted after running repeated sprints), which can lead to decreased cognitive functioning (i.e. having a hard time thinking or focusing) and then require crew members to execute tasks that involved critical and adaptive thinking. ECS crew members were divided into teams based on battle rostered crews. Having crews complete the course in this manner

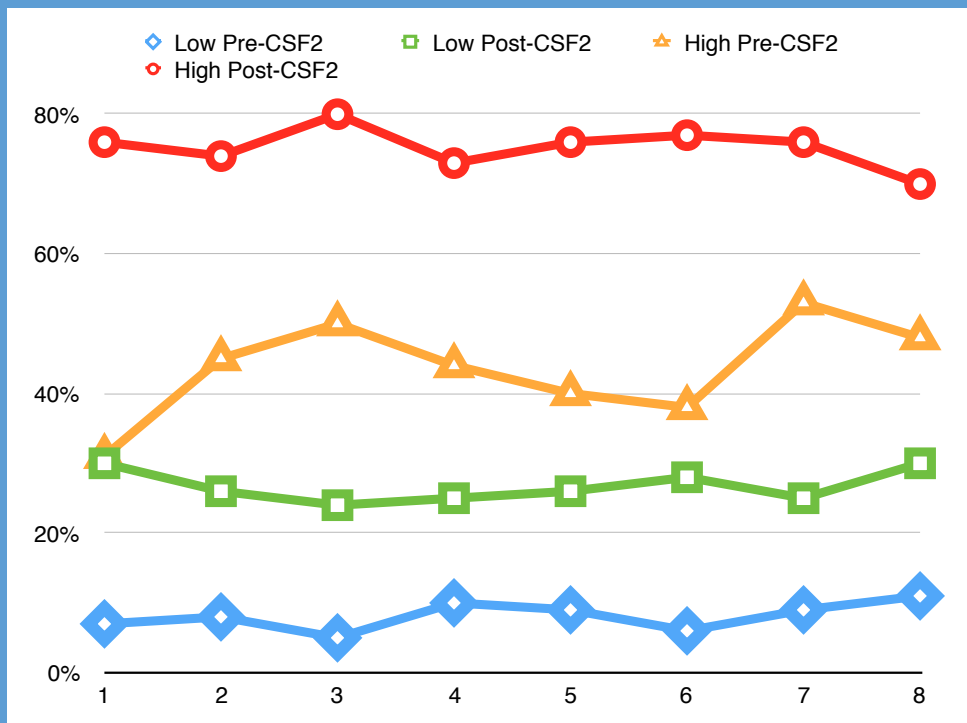


Figure 2. The average coherence achievement by intervention group pre-CSF2 versus post-CSF2 mental skills training. (Illustration by Rick Paape)

created the opportunity for crews to build cohesion and communication skills, balancing each-other's strengths and weakness in each scenario.

Prior to the start of each task, each crew member had to complete a physical task. To create pressure and simulate mental and physical consequences of poor performance,

each obstacle also included a physical consequence if completed incorrectly.

The first obstacle was a complex problem that simulated the mental effects of a high tactical ballistic missile volley by testing air defenders' information processing techniques and challenging communication among crew members to come to a consen-

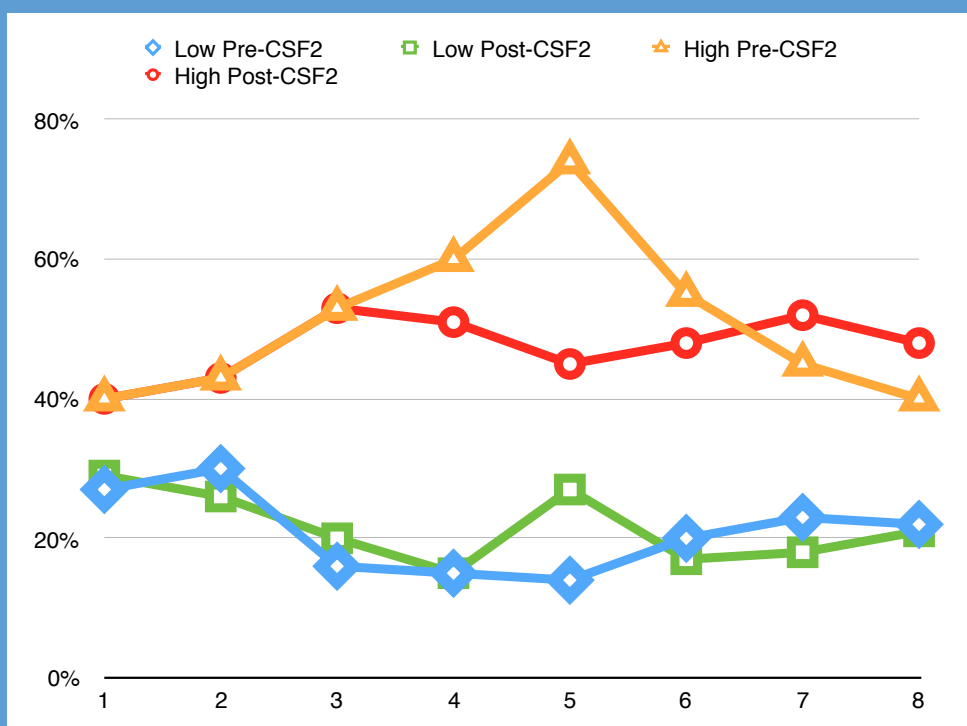
sus. For this obstacle, the mental skills the Soldiers could implement to combat the high levels of physical and mental engagement to successfully complete the obstacle were deliberate breathing, thinking in a more productive manner, conducting imagery and utilizing cue words to stay focused.

If the crews successfully completed the first obstacle they moved to the next obstacle, which was a comparatively simpler problem. The obstacle demonstrated how higher levels of energy activation can lead to lower levels of executive cognitive functioning. Due to the physical stress Soldiers had endured up to this obstacle, many were already beginning to experience cognitive detriments. Two mental techniques to help with successful completion could have been deliberate breathing and reframing thoughts to more confident thoughts.

Once the second obstacle was completed, crews would re-engage with a physical task to ensure that physiological arousal was still elevated (they still felt exhausted). The third obstacle required crews to work together to create strategies, work on memory and recall, then further pay attention to details. The mental skills that could have been implemented to be successful for this obstacle were the integration of imagery, cue words to direct attention, deliberate breathing and confident thinking. There were a few Soldiers who had issues with this obstacle because of an apparent lack of attention to detail.

The fourth obstacle required air defenders to memorize a pattern of numbers and colors, then complete fill-in-the-blank problems based off of information they had just memorized. One of the areas the MRT-PEs attempted to challenge the crews was in their ability to make decisions based off patterns of information they had memorized previously. This would mimic the memory and recall they found themselves having to rely upon in the ECS during air battle operations. Each crew that successfully completed this obstacle did so because they were able to devise a plan to best leverage the strengths of each team member. Mental techniques that could have been used for this obstacle were deliberate breathing, prioritization of tasks and imagery.

Due to the length of time in a high state of arousal, at this point, MRT-PEs introduced a fine motor task to challenge Soldiers to combat the negative effects of extended time with high levels of physiological energy activation. The fifth obstacle encouraged crews to creatively problem solve, using log-



ic and pattern recognition. Therefore, they could be relying on imagery techniques, deliberate breathing and confident thinking.

For the final task, MRT-PEs used another simple problem for the Soldiers to solve. The level of competition and the Soldiers' desire to finish the obstacle course led to many Soldiers rushing through this final obstacle and completing it incorrectly. The obstacle was targeting simple pattern detection, logic and crew decision making, but many of the Soldiers appeared unable to pay attention to finer details because they were distracted by other crews. Hence, the use of attention control skills, deliberate breathing and communication skills could have proven to be more effective strategies for the Soldiers.

On average, the obstacle course took teams around 40 minutes to complete. At the conclusion of the obstacle course, MRT-PEs led crew members through a debrief focusing on cognitive limitations experienced during the course. Soldiers were also able to draw conclusions on how the deliberate application of mental skills targeted in the education workshops and obstacle course could help to improve performance during air battle operations.

Training outcomes

Post-measurements indicated a significant change in crew member's ability to maintain consistently high HRV, regardless of air battle outcome. Overall, the intervention group showed an average increase of 30.6 percent of time spent in high HRV, while also demonstrating an average decrease of 19 percent time spent in low HRV, following mental skills education. The intervention group also showed more time spent in a state of high HRV following a difficult air battle compared to the control group. After receiving mental skills training, ECS crew members demonstrated they were better able to implement self-regulation techniques. Beyond the ability to better regulate their own energy individually, crews were able to get a better handle on how their member's needs to manage energy to perform more optimally.

In the charts above, "AB" is the acronym used for air battle. Measurements were taken immediately before and after each air battle. The dotted lines show the results of measurements taken on day one. The solid

lines show the results of measurements taken following the training. Figure 2 shows the intervention group's average scores for high HRV for the first and last days of measurements. Note the large increase in high levels of HRV and the significant decrease in low HRV, as well as the overall greater levels of consistency as compared to the control group. As previously discussed, this is extremely meaningful because of the links between the ability to self-regulate during a performance, and the ability to attain a higher cognitive performance and memory recall during that performance. Figure 3 depicts the results from the control group for the first day of measurements and last day of measurements. Note the inability to maintain a consistent level of high HRV.

Conclusion

The following recommendations are offered based on the results of the study:

- Mental skills training should be incorporated at the basic gunnery level. I recommend this as a point of injection because it will assist Soldiers in coping with high pressure performances as they advance to intermediate gunnery, while also endorsing it as a fundamental building block of training and meaningful performance. As crews are formed for certification, events such as the obstacle course can facilitate teamwork, while enhancing crew members understanding of each other's mental strengths and weaknesses.
- Utilize CSF2 MRT-PEs to train the curriculum. MRT-PEs are professional instructors that train these skills on a regular basis and have the EmWave monitors to support training implementation. They are also funded by the Department of Defense to conduct these types of missions. The key to their incorporation is ensuring they have adequate awareness of your organizational mission set and how training is conducted. With this understanding, they can directly apply mental skills to your Soldier's needs.
- Leader engagement and understanding of the importance of the mental aspects of performance is critical to the sustainment of the skills application in training programs. This must first be achieved by creating buy-in at the lead-

er level. One way to accomplish that is to hold a training event similar to ours, designed to gather your own quantitative data.

- Additional studies should be done in the military, applying the training of these skills to a quantitative assessment of performance on evaluations. Following our investigation, the number one question that I was asked was whether this training would make Soldiers perform better in evaluations. I cannot support that assertion with the data that we gathered because that specific element was not assessed.

The question that we would like to answer in the next phase of this strategy is, from a military perspective, how do these benefits fully evolve and truly enhance a performance i.e. can we link these benefits to any other quantitative results or enhancements that come as a secondary result? Scientifically, we cannot make the assertion that these crews will perform better than any others in an evaluation, despite the results of our study. We can only say they will self-regulate better, but that is the next obvious exploration.

The training event discussed in this paper was only four days long. The benefits of this training event had long lasting effects that permeated, not only the training environment of our organization, but its culture. Even without overtly observed, quantitative benefits, the contribution of these skills to Soldier self-awareness and the active contemplation of the mental role in combat and high pressure performance has inexplicable value to the force. It is my hope that our experiences can serve to shape your consideration of the benefits of such a program to your organization.

Acknowledgements

I would like to express a special thanks to Ms. McKenzie Rath and Mr. Adam Skorsanski at the CSF2 site at Fort Bliss, Texas. They played a critical role in the development of the curriculum and methodology that allowed us to make these training observations.

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11th Brigade exercises dynamic thinking at RT3 lab

By Matthew Villa

“Fireball! Fireball!” is the call heard hundreds of times daily by 11th Air Defense Artillery Brigade Patriot crews at the Fires Center of Excellence Capabilities Development and Integration Cell at Fort Bliss, Texas.

Fortunately, there is no real threat, rather simulated missile attacks generated by the CDI-Cell team. On average, an excess of 600 Soldiers a month train in the CDI-Cell; preparing for deployment, sustaining skills or building basic Patriot operator techniques and procedures. These Soldiers use the CDI-Cell to exercise “dynamic thinking,” to quickly grasp complex concepts beyond the basic battle drills. These Patriot kill-chain operators exercise and hone their skills in all aspects of air and missile defense for the joint and coalition operations they will execute in theater.

The CDI-Cell has facilitated Patriot crew training and sustainment for 11th ADA since late 2008. Under the leadership of Col. Alan Wiernicki, the Soldiers have maximized “dynamic thinking” to anticipate several emerging air frame and ballistic threats.

The heart of the CDI-Cell is the 14 Reconfigurable Table Top Trainers (RT3). RT3s use the actual Patriot tactical software and replicate the Patriot radar scopes air defenders use to deter and destroy possible threats. The CDI-Cell offers Soldiers much more than just simulated Patriot scopes. The Soldiers are able to utilize the same tactical communications — voice and chat — they have in theater. The CDI-Cell also provides simulated Patriot Battalion and Battery Tactical Operations Centers. This facilitates air missile defense engagement operations training and the “dynamic thinking” required of Soldiers who will potentially execute missile engagements in theater.

Any air defender can tell you the training is only as good as the difficulty of the

simulation scenario presented. This is where the CDI-Cell really shines. The CDI-Cell employs three retired air defense subject-matter experts (SMEs) to assist the Soldiers and provide mentorship and feedback. Based on post training hot washes and after action reviews, this small crew of SMEs build new scenarios daily that enable re-enforcement of critical skills. The CDI-Cell has a vast library of scenarios the Soldiers use to train and sustain their knowledge level. These air battle scenarios represent multiple theaters and specific threats that closely mimic situations the Soldiers could find themselves in downrange.

Eleventh ADA Brigade leadership appreciates the CDI-Cell’s dynamic flexibility to support training to both deploying and recently returning battalions. Earlier this year as 1st Battalion, 43rd Air Defense Artillery was preparing to deploy, they used the CDI-Cell to maintain the skills they validated during their mission rehearsal exercise. They also utilized the CDI-Cell’s secure conference rooms, video teleconferencing equipment and SIPR workstations, to conduct classes and communicate directly with downrange.

Currently, the other 11th ADA Brigade units are utilizing the CDI-Cell to train new and reconstituted crews on air battle tasks. The CDI-Cell meets the various needs of units at any phase of the Army Force Generation three-phase readiness cycle: reset, train/ready and available.

The CDI-Cell incorporates its own “dynamic thinking” to better prepare the air and missile defense warfighter. In July, the CDI-Cell will support its third Red Flag exercise. Red Flag, at Nellis Air Force Base, is the premier Air Force joint and coalition exercise. The CDI-Cell developed a unique methodology to allow the RT3 simulators to fully integrate into this live air exercise;



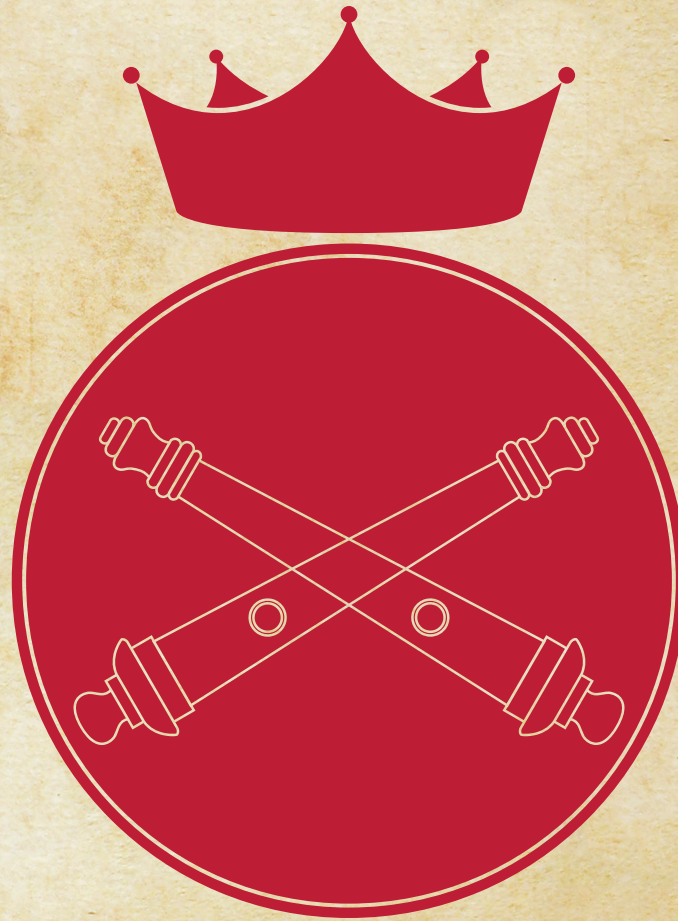
Sgt. Tyler Benner, air defender, instructs Soldiers on kill-chain operations during battery command post Patriot training at the Air Defense Training Center earlier this year. (Mike Blake/Air Defense Training Center)

opening an opportunity for 11th ADA Brigade Soldiers to participate with Air Force counterparts, giving them the benefit of joint tactical training, close to home and with minimal cost.

Being on the cutting edge of Patriot technology is important. Just recently, several 11th Brigade RT3s were upgraded with the pre-fielded, just out-of-the-box Patriot software—Post Deployment Build 8. Loading this software and allowing the operators to “beta test” gives instant feedback to the software developers. This provides a quick turnaround that the remaining force can benefit from.

The CDI-Cell looks forward to continuing its support to the 11th ADA Brigade. The CDI-Cell never loses sight of the importance of its core mission — directly supporting warfighter training to prepare for mission success.

Matthew Villa is a 1999 graduate of the United States Military Academy. He was on active-duty for seven years, serving in various air defense artillery units. He currently works as a contractor supporting the Capability Development and Integration Cell at Fort Bliss, Texas, and also serves in the National Guard with the 263rd Army Air and Missile Defense Command.



KEEPING THE KING ON HIS THRONE

The purpose of multinational Fires in unified land operations

By Maj. Jason Carter and Capt. Robert Auletta

Necessity is the mother of adaptation. At the Joint Multinational Readiness Center in Hohenfels, Germany, observer, coach, trainers (OCTs) regularly adapt to an operational environment (OE) unique to JMRC – one that is both multinational (MN) and deterrent in its European setting. Adaptation is manifested in interoperability and interoperability, when optimized, is a deterrent to those who may oppose the U.S. or her allies in the European theater of operations.

The effectiveness of allied forces in peace, crisis or in conflict, depends on the ability of the forces provided to operate together coherently, effectively and efficiently. Allied joint operations should be prepared for, planned and conducted in a manner that makes the best use of the relative strengths and capabilities of the forces which members offer for an operation.

AJP-01(D) Allied Joint Doctrine

The big picture: The multinational training imperative

NATO Article 5 provides that if a NATO ally is the victim of an armed attack, each and every other member of the alliance will consider this act of violence as an armed attack against all members and will take the actions it deems necessary to assist the ally attacked.

President Obama confirmed the U.S. pledge saying, “What we will do – always – is uphold our solemn obligation, our Article 5 duty to defend the sovereignty and territorial integrity of our allies. And in that promise we will never waiver; NATO nations never stand alone.” The Army’s Operating Concept assumes that, with the exception of national emergencies, the U.S. Army will conduct operations as

part of joint, interorganizational and multinational teams. Finally, United States Army, Europe’s (USAREUR) Strong Europe concept serves as the U.S. Army’s main contribution to NATO and its allies and partners, as they act as the main enabler for NATO land forces on behalf of U.S. European command. Within USAREUR, the 7th Army Training Command and the JMRC have proponency for training lead-

ers, staffs, and units (U.S. and MN partners) to dominate in the conduct of unified land operations (ULO) anywhere in the world. Key to achieving true interoperability is to train Soldiers and leaders in an environment they will face in a deployment. We replicate that environment at the JMRC by task organizing multinational units under and adjacent to forces different from their own.

“Keeping the king on his throne” is the overarching title for a series of what will be three articles aimed at reversing a consistent observation of the Fires warfighting function at the JMRC – particularly the field artillery, the “King of Battle” – being technically competent but tactically isolated in its support of the JFC or commander (See

Lt. Col. Dave Pasquale, battalion commander, 4th Battalion, 319th Airborne Field Artillery Regiment, 173rd Airborne Brigade, gives an introductory briefing during the 7th Army Joint Multinational Training Command's Distinguished Visitors Day for Exercise Allied Spirit IV at Hohenfels Training Area, Germany, Jan. 27, 2016. The Allied Spirit IV Exercise focuses on unified land operations and enhancing fires interoperability and integration of NATO Allies. (Gertrud Zach/Training Support Activity Europe)



Figure 1). This is typically rooted in fire supporters failing to competently and confidently advise the commander in a manner that allows him or her to visualize how multinational Fires can support their scheme of maneuver. That said, the fire support community is not the sole bearer of the burden. Trends at the JMRC indicate that both Fires and maneuver leaders lack the foundational experience to develop their employment of Fires competency. Without this foundation, neither the fire supporter nor the commander can visualize the use of Fires in time and space. Subsequently, if a commander, regardless of echelon, lacks confidence in his/her own understanding of the employment of an asset or the fire support officer's ability to bring the asset to bear, the commander either hesitates or,

more often than not, flat out doesn't use it.

Fire supporters who can successfully advise the commander or commanders who can successfully visualize Fires must then surmount the next challenge – achieving interoperability to deliver on the promised multinational Fires product. NATO Joint Doctrine defines interoperability of joint and multinational formations as having three dimensions, technical (e.g., hardware, systems,) procedural (e.g. doctrines, procedures) and human (e.g. language, terminology, and training). “Keeping the king on his throne” will highlight all three.

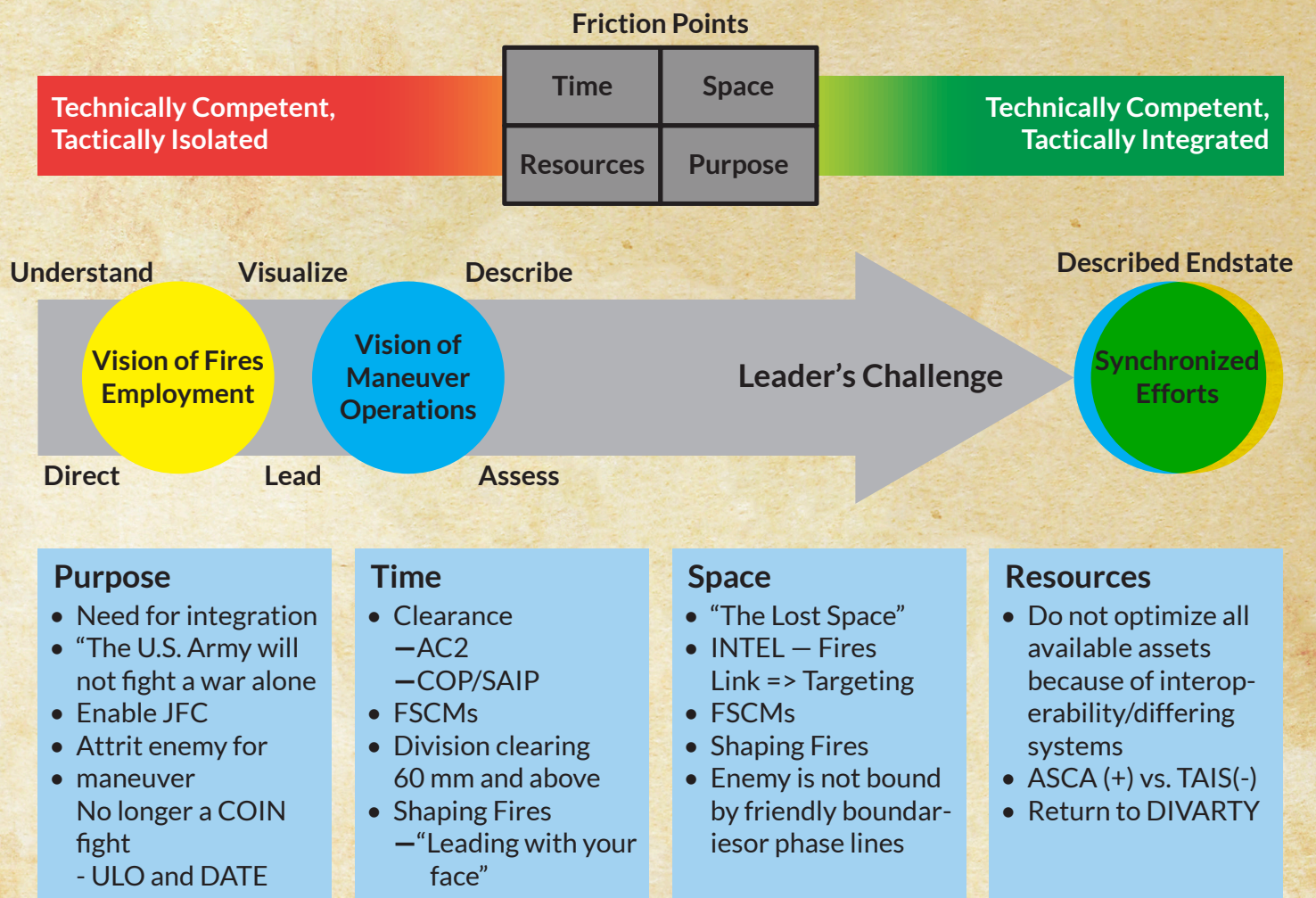
Technically competent, tactically isolated

Recent trends at the JMRC indicate that a 13B40 and his executive officer can lay the firing

battery and his number one men can pull lanyards with violence of action to achieve destructive effects. A 13D can process a fire mission, calculate scatterable mines emplacements, or determine ammunition requirements for a linear sheaf in support of a breach. A joint terminal attack controller can request planned or dynamic fixed wing air support. An AH-64 Apache pilot can conduct screening operations beyond the forward line of his or her own troops. Tactical isolation occurs when the integration and synchronization of those technical competencies into the commander's tactical plan fail. Without integration, they remain stovepipes of excellence that achieve minimal effects on the enemy force. If a fire supporter can paint the Fires picture appropriately for the commander during the

planning process, delivering on the promised product is the next challenge. While these observations aren't limited solely to multinational operations, they quickly surface in the multinational environment of the JMRC. It is not uncommon for a multinational brigade combat team to have a task organization consisting of a U.S. field artillery battalion and multiple MN maneuver battalions, simultaneously receiving direct support radar acquisitions from a different MN force (see Figure 2). Initiatives such as the Artillery Systems Cooperation Activities (ASCA), which we will address in our next two articles, make interoperability possible and help surmount the technical component of interoperability. Prior to addressing technical challenges, an understanding of the human dimension and “how we fight”

Figure 1. An illustration of the “Keeping the King on His Throne Concept.” (Rick Paape)



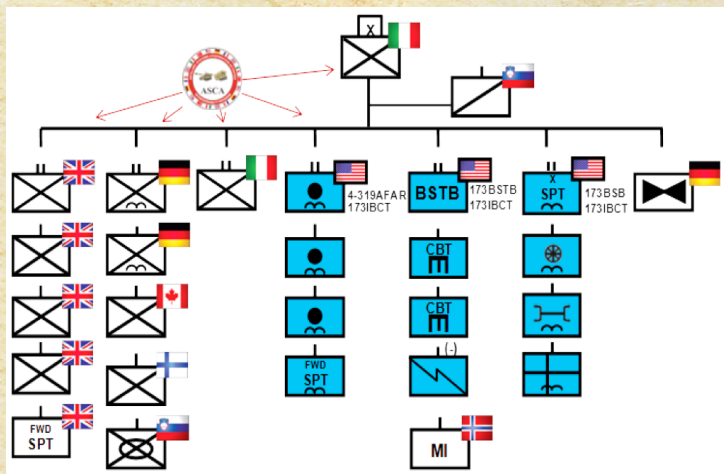


Figure 2. Multinational task organization during the Allied Spirit IV exercise. (Courtesy Illustration)

as a multinational force is paramount.

A common understanding:

Education at the JMRC

In a multinational environment, one must seek understanding before demanding

to be understood. As noted in the opening paragraphs, fire supporters understand procedure, but procedure without an understanding of purpose is futile. Educating both U.S. and our MN partners on mutual capabilities and gaps helps mitigate the challenge of the human

dimension and achieves initial interoperability prior to the first round being fired.

The JMRC's Joint Combined Academics Program (JCAP) is a multi-day program that occurs prior to each MN rotation and focuses not only on building the commander's team but also on building a shared understanding of the Fires warfighting function in a decisive action training environment (DATE). Each JCAP is tailored to its rotation. For example, a U.S.-pure airborne brigade combat team (BCT) and a multinational armored brigade combat team will receive different programs of instruction. In each case, objectives remain the same. They include: defining roles and responsibilities at all levels (reporting, rehearsing, relationships), developing an architecture that is supportable under tactical conditions within a MN construct (digital versus voice communications), delin-

eating the roles of the field artillery battalion versus the brigade Fires cell (radar management, positioning guidance, ammunition resupply procedures etc.), and discussing in detail the differences in terminology to ultimately gain a common operating picture. Who is the BCT fire support coordinator when the brigade commander is from a MN force that deploys their fire support coordinator (who is not their FA battalion commander) and the Fires battalion is a U.S. formation? In a recent rotation, a multinational field artillery battery commander also served as the battalion fire support officer, which is common in many NATO countries. JCAP solves these problems to mitigate friction within the rotation. We teach adaptation and coach/mentor both U.S. rotational units (RTUs) and our MN partners through a multinational lens to leverage each other's strengths to best support the commander's objectives. A significant coaching effort that begins during JCAP and typically endures throughout the rotation is the mindset shift toward employing expeditionary Fires in support of unified land operations.

Changing a mindset: Expeditionary unified land operations

While conducting unified land operations within the decisive action training environment is not unique to the JMRC, its MN flavor is. Instead of being greeted by a re-deploying unit surrounded by the luxuries of hard-stand command posts pre-wired for internet and American Forces Network, shops, fitness centers, and Wi-Fi in the tents and container housing units, U.S. and MN rotational units arrive ready to gain and maintain contact and in many cases are in contact within minutes. Providing access to and integrating multinational Fires enables



commanders to attack the enemy throughout the depth and breadth of the area of operation in combined arms maneuver and wide area security operations. Targeting cycles are no longer two weeks, but 72 or 96 hours. U.S. forces seem to struggle to understand this more than our defense-minded MN partners but doing so is critical to the multinational Fires warfighting function achieving success.

This is why gaining an understanding, during JCAP, of employing MN Fires in time and space helps set conditions prior to infiltration. After JCAP, but prior to RTUs entering “the box,” simulations operators create deep areas which allow the BCT (MN or U.S.) and the joint task force/higher command (MN or U.S.) to begin their targeting cycle and attrite enemy forces in depth with long-range intelligence, surveillance and reconnaissance and Fires. This is the first true test that demonstrates an understanding of multinational Fires capabilities outside of the classroom JCAP setting. The purpose behind this is twofold: 1) the MN or U.S. BCT commander is able to not only understand the enemy forces composition and disposition, but also shape as he deems necessary prior to the close fight, and 2) minimize RTUs having to begin operations with a “cold-start” targeting cycle, meaning that on day one, they face an enemy force that hasn’t been attrited. While keeping lessons learned from the last 10 years (precision/risk reduction, positive identification, non-lethal targeting) in mind, we coach a mindset shift from either precision or massing to precisely massing multinational Fires. As mentioned in our opening, an understanding of multinational



Soldiers of 4th Battalion, 319th Airborne Field Artillery Regiment, 173rd Airborne Brigade utilize UH-60 Black Hawk helicopters to relocate a M119 105mm howitzer while conducting an air insertion operation during exercise Allied Spirit IV at the U.S. Army's Joint Multinational Readiness Center in Hohenfels Training Area, Germany, Jan. 20, 2016. (SpC. Courtney Hubbard/Viper Combat Camera USAREUR)

Fires in a decisive action environment is the first step toward a shift from tactical isolation to tactical integration.

In summary, we have emphasized the importance of sharing an understanding of how we fight as a multinational warfighting function. The effectiveness of allied forces in peace, crisis or in conflict, depends on the ability of the forces provided to operate together coherently, effectively and efficiently. Once the multinational force understands those capabilities, the next step is the demonstration of that understanding through the application of multinational Fires in time and space.

In the second article of “Keeping the king on his

throne,” we will highlight the timely delivery of MN Fires, with an emphasis on multinational airspace command and control (AC2). We will also explore what ASCA has accomplished for the field artillery community and propose an “ASCA-like” solution for airspace command and control interoperability. We will focus on how RTUs have adapted to suboptimal interoperability for AC2 and how multinational airspace management affects the timeliness of Fires, which affects the scheme of maneuver and, when inadequate, leads to further isolation as a multinational warfighting function. This will segue into the third and final article, which will highlight multinational Fires in

space, specifically attrition in depth prior to the close fight.

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An AH-64D Apache Helicopter from 3rd Squadron, 17th Cavalry Regiment, 3rd Combat Aviation Brigade fires a rocket during the Joint Air Attack Team exercise on Fort Stewart May 22. The JAAT involved Air Force Joint Terminal Attack Controller coordinating artillery and AH-64D helicopters from 3rd Infantry Division along with an F/A-18 from the Marine Corps. (Spc. Scott Lindblom/3rd CAB Public Affairs)

Defeating the enemy with the Joint Air Attack Team

A simulation exercise

By Maj. P. John Culpepper and Capt. Jason Galletta

Foreword: Second Brigade Combat Team, 3rd Infantry Division has just successfully air assaulted into Objective Tigers and is quickly expanding the lodgment. To the south, 1st Armored Brigade Combat Team has defeated the 3rd Mechanized Infantry Battalion but has culminated short of their final objective to defeat the 2nd Mechanized Infantry Battalion. With the 1st and 2nd MIBN still intact, national assets have determined the enemy is preparing to conduct the most dangerous course of action and counterattack the 2nd BCT lodgment. With little time to spare, 3rd Infantry Division quickly plans an interdiction attack using a joint air attack team

(JAAT) consisting of AH-64 Apaches, a field artillery battalion and A-10s.

This is the fictitious scenario for a division simulation exercise designed to immerse division planners, Army aviators, field artillery Soldiers and Air Force joint terminal attack controllers (JTACs) into an interdiction attack within the division area of operation beyond a ground commander's reach in order to learn, plan and execute one. By their very nature operations involving a JAAT are complex and high risk which is why this simulation exercise was conducted in May 2015 prior to the live-fire event scheduled in June 2015. The purpose of this arti-

cle is to highlight the composition of a JAAT and describe the design and execution of the exercise. This exercise provided an excellent opportunity to re-educate personnel on the mechanized conventional threat found in the decisive action training environment and to refine the planning process and execution of an interdiction attack using a JAAT.

The Joint Air Attack Team

A JAAT operation is a coordinated attack by rotary- and fixed-wing aircraft, normally supported by artillery or naval surface fire support (FM 3-04.126). By utilizing a JAAT operation, a commander blends the unique capabilities of each service into an effec-

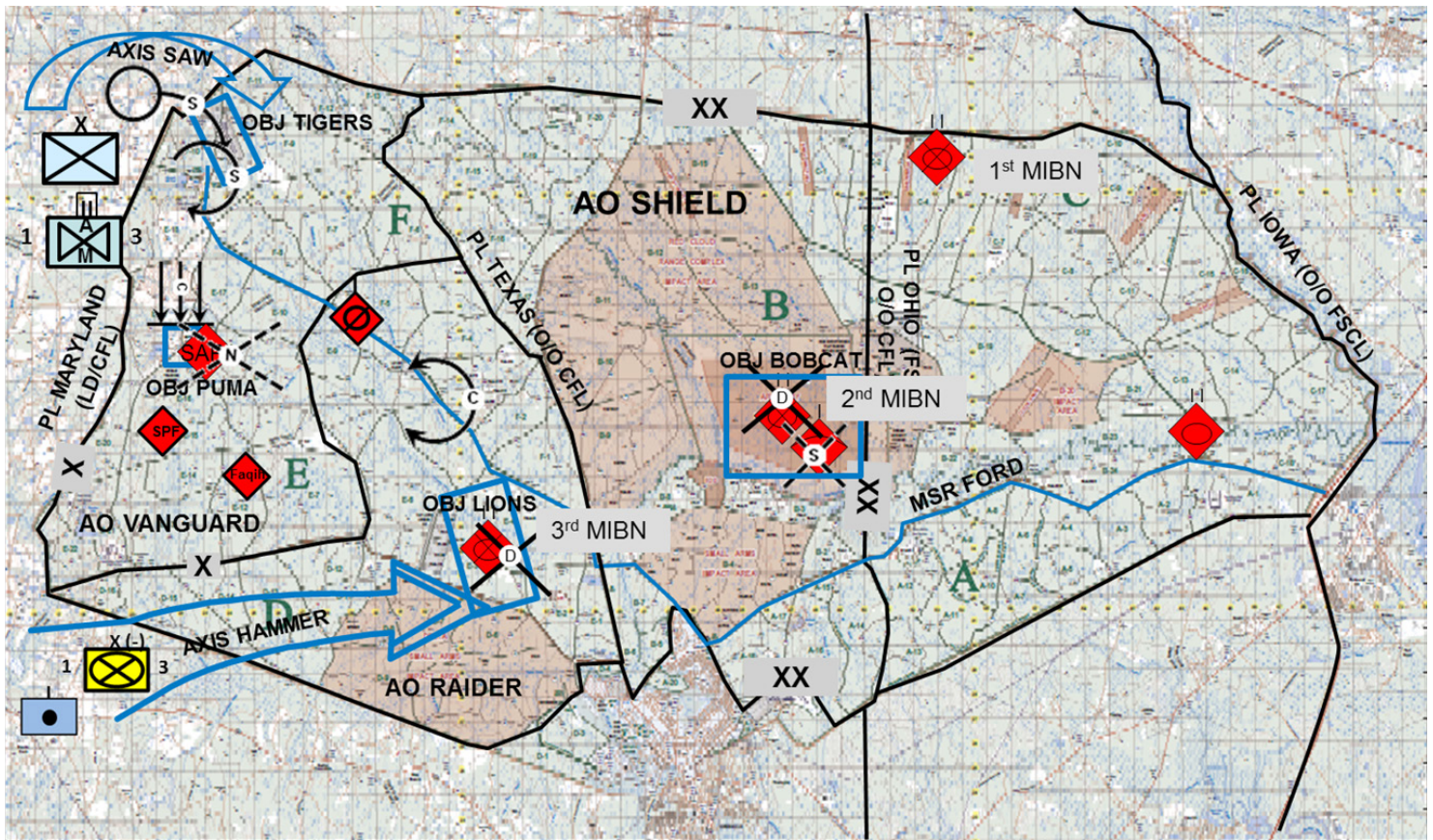


Figure 1. The operational scenario. (Courtesy illustration)

tive and lethal force capable of shaping the battlefield for future operations. However, since JAAT operations involve numerous units that may not typically operate together, plans and procedures must be as simple as possible to ensure success and reduce the risk of fratricide or accident. In a JAAT the Army or Marine Corps is capable of providing attack helicopters. The Air Force and Navy are capable of providing close air support aircraft and the Army and Navy can provide indirect fire support capable of suppressing enemy air defense, target marking or other Fires to support the JAAT. JAAT considerations are briefly discussed in ATP 3-09.32 on page 72 and discussed in greater detail in Appendix C of FM 3-04.126.

Exercise design

For this exercise we utilized the integrated training environment (ITE) to create the conditions necessary to execute JAAT operations. The ITE, a system of systems, by design combines and connects key training enablers in a persistent and consistent manner to accurately stimulate mission command information systems (MCIS) to meet the commander's training objectives within the appropriate operational environment. Key components of the ITE include the decisive action training environment



Chief Warrant Officer 2 Barry Galinger, brigade targeting officer, 3rd Combat Aviation Brigade (CAB), and Capt. William Neltner, assistant fire support officer, 3rd CAB synchronize aircraft and artillery during a Joint Air Attack Team (JAAT) on Fort Stewart. The JAAT involved Air Force Joint Terminal Attack Controller coordinating artillery and AH-64D helicopters from 3rd Infantry Division along with an F/A-18 from the Marine Corps. (Sp. Scott Lindblom/3rd CAB Public Affairs)

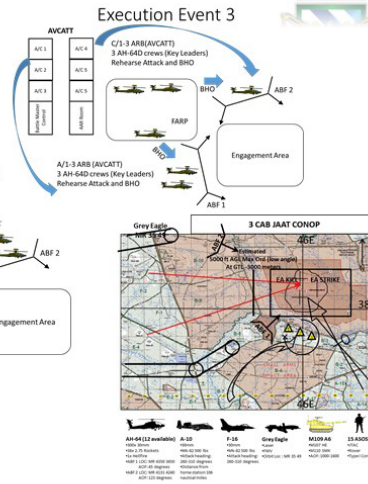
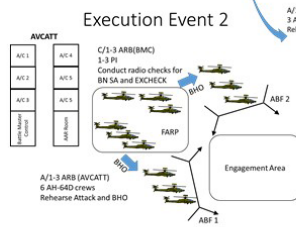
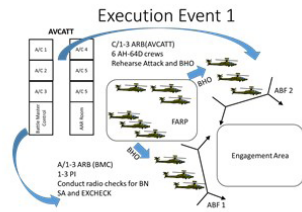
- Rehearse the Marne Focus JAAT mission
- Validate the EXCHECK and C2 of mission
- Conduct Mission Command
- Challenge JAT to react to a variety of targets

Equipment:

- AVCATT w/ LVC-IA through MTC
- CPs w/ MTC equipment

Audience:

- DTAC, TACP (AF), DIVARTY, 3CAB



MARNE AIR

MISSION COMMAND

UHF Strike NET

- AH-64
- Grey Eagle
- Air Force
- TACP/DIV FC

1-3 BN CMD NET

- AH-64
- Grey Eagle
- TF Viper
- 3CAB TAC

Fire Control NET (D)

- M109A6
- Q 37 Radar
- DIVARTY

Fire Control NET (V)

- M109A6
- Q 37 Radar
- DIVARTY

AFATDS

- TF Viper
- 3CAB FSE
- DIVARTY/DTAC

TAIS

- 3CAB TAC
- DIVARTY/DTAC

CPDF Ventrillo (V)

- TF Viper
- 3CAB TAC
- DIVARTY/DTAC

The diagram illustrates the Mission Command network architecture. It shows a central hub-and-spoke model with various units and their communication links. Key components include:

- UHF Strike NET:** Connects Grey Eagle, CAS, and AMC Attack Aviation.
- 1-3 BN CMD NET:** Connects various units including AFATDS, DTAC, and TACP.
- Fire Control NET (V) and (D):** Connects M109A6 and Q 37 Radar.
- AFATDS:** Connects TF Viper and 3CAB FSE.
- TAIS:** Connects 3CAB TAC and DIVARTY/DTAC.
- CPDF Ventrillo (V):** Connects TF Viper and 3CAB TAC.

Adjustments

BN CMD NET FM/NET → **TF Viper FSE** → **AFATDS Digital** → **Centralized Message routing** → **3CAB FSE** → **AFATDS Digital** → **DIVARTY** → **AFATDS Digital** → **Shoot/Splash**

Positive Clearing Procedures

WIN-T

- Backbone for all Mission Command Systems
- Primary means for shared COP
- AD SIAMDIWS
- Airspace de-confliction mission command system
- AFATDS
- Procedural Control management and AC2 COP
- Manager of FS COP (FSCM, Targets)
- Fire Mission Processing
- SR Systems
- Displays ATO
- Displays Air COP
- ACM Planning Tool
- Displays AC2
- CPDF Ventrillo (VOICE)

RADIO

- Fire Control Net Voice (FM)
- Voice Fire Mission Processing from DIVARTY to Firing Unit
- Observer Net (RADAR/OP 1)
- Fires Rehearsal Net
- DIV TAC-P Strike Net (UHF)
- C2 NET for all Air assets in support of JAAT
- Airspace deconfliction NET for TAC-P
- TAC-P, AMC, Grey Eagle and FAC(A) Terminal Guidance
- 1/3 AVN BN CMD NET (FM, SC CT)
- Rotary and Grey Eagle AC2 NET
- Voice OFF from Rotary or Grey Eagle to 1/3 or 3 CAB FSE
- Fire Direction Net Digital (FM)
- Digital Fire Mission Processing from DIVARTY to Firing Unit
- Manager of FS COP (FSCM/Targets)

and the Live, Virtual, Constructive – Integrating Architecture (LVC-IA). In order to stimulate the training audience we tied together the Joint Conflict and Tactical Simulation (JCATS) and the Aviation Combined Arms Tactical Trainer (AVCATT) using the LVC-IA. JCATS was used to maneuver the fixed-wing aircraft and the field artillery battery. At the same time rotary-wing pilots

The scenario for this exercise involved an Arianan mechanized threat defined within the decisive action training environment. As described in the introduction, two mechanized infantry battalions were poised

Some of the key objectives of the event were call for fire missions, timing of suppression of enemy air defense (SEAD) missions, distribution of Fires and engagement area development. Part of the scenario required the AH-64 pilots to choose the best option between a point or area weapon to engage the target which included not only their aircraft's weapons but also an artillery call for fire. By allowing for dynamic free play within the engagement area we were not limited to merely executing a sequence of events, rather we were training to mass Fires and effects to defeat a thinking and reacting enemy. With the pilots flying in the virtual simulator they were able to observe the rounds impacting during the SEAD missions as they flew low and fast to occupy their attack by fire positions. The timing for this mission is critical to protect the aircraft from potential enemy air defense. If the mission is fired by the field artillery unit too early or too late the enemy has time to react and shoot down our aircraft. The last objective was to practice fire distribution to reduce redundancy of servicing the same target. Objective Bobcat was divided into two engagement areas (EA): EA Kill and EA Steel. The rotary-wing aircraft serviced all targets inside of EA Kill while fixed-wing aircraft serviced EA Steel. This ensured each element of the JAAT had their own area to identify and engage targets. The JTACs at division coordinated all the Fires over the ultra high frequency radio on a designated frequency we named the Strike Net.

Since the AVCATT only has six manned modules and the goal was to fly 12 aircraft, we had to get creative in the way we cycled through crews. We quickly decided to execute the exercise in three iterations. During the first iteration one company of six aircraft flew in the manned modules while the second company made radio calls from the battle master control portion of the AVCATT and during the second iteration the companies switched positions. During the third

iteration, key leaders from each company flew all six manned modules to exercise the entire plan (see Figure 2). We did not tether aircraft to the manned modules due to issues in the past with tethered aircraft masking lead aircraft while attempting to engage targets. Executing three iterations of the mission also allowed us to refine the targeting process for calls for fire from the supporting artillery battery. In addition, during each iteration, the enemy presented a different challenge and posture to the JAAT that had to be coordinated by the division tactical and Air Force liaison officer.

The Joint Conflict and Tactical Simulation (JCATS) is a constructive simulation that allows units to conduct simulated combat operations and it also stimulates the mission command information systems (MCIS). During this exercise, B Battery, 1st Battalion, 41st Field Artillery maneuvered their guns and the Air Force flew their aircraft using JCATS workstations. At the earliest opportunity calls for fire were input into the Advanced Field Artillery Tactical Data System (AFATDS) and digitally transferred to the fire direction center. Centralized message routing exercised positive clearing procedures between the fire support cell and the observer/sensor-shooter, indicating approval or denial from battalion through

brigade and division to DIVARTY of all request for fire. Within the simulation once a call for fire was received by the fire direction center (FDC) AFATDS, the request was translated through the Artillery Translation Engine Mapping Client (ATEMC) to conduct the fire mission in JCATS. Manual fire missions could also originate from the JCATS workstation if calls for fire were received over the radio straight from the observer to the battery FDC. Figure 3 illustrates the communications architecture used during the exercise.

Exercise execution

The exercise was initiated by the division once the Gray Eagle had confirmed location of the enemy mechanized infantry battalion. Latitude and altitude separation measures were established to reduce the risk of fratricide. Figure 4 illustrates the concept of lateral separation from FM 3-04.126. The ALO maintained Type 3 control which means the JTAC required the ability to provide clearance of fire for multiple attacks within a single engagement area. Once the JTAC had provided the attacking aircraft targeting restrictions the Air Force JCATS operators were clear to attack targets within their engagement area. Simultaneous to the fixed-wing attack, the AH-64's occupied attack by fire positions 1 and 2 and

engaged targets using either 30 mm main gun, 2.75 inch rockets, Hellfire Missiles or conducting a call for fire. The advantage of having the pilots call for fire allowed them to stay in the attack by fire location longer before expending all of their ammunition while also keeping eyes on the target. Battle damage reports were continuously fed to the intelligence analysts to determine if we had achieved the directed task of destroying the enemy.

Conclusion

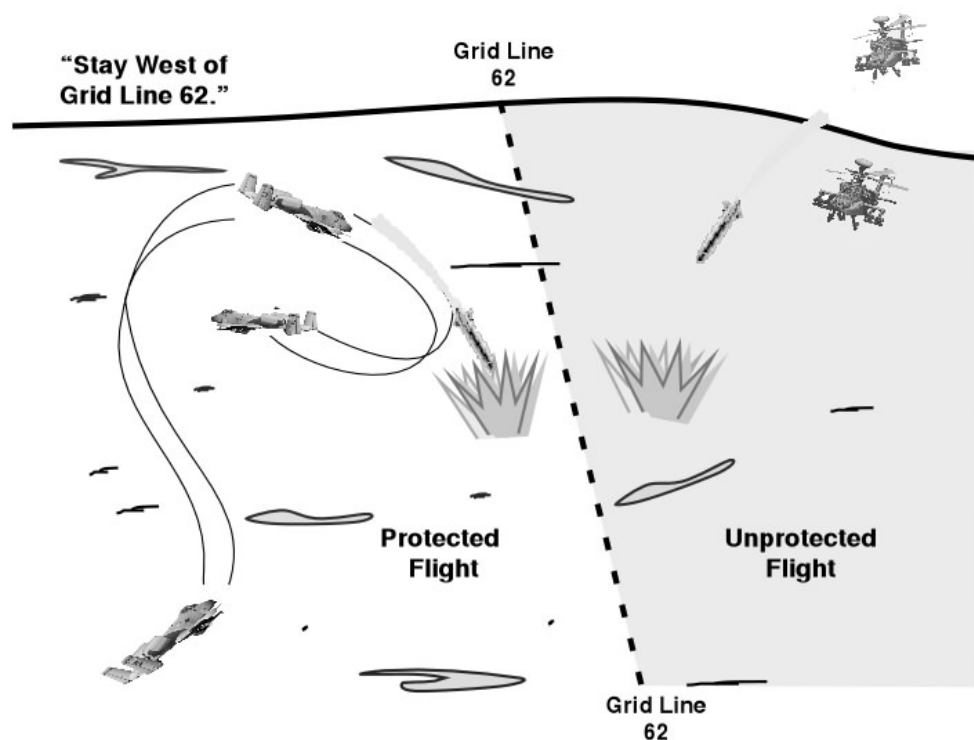
The consensus of the exercise from the training units was that it had been time well spent. Many of the Soldiers had not conducted an event of this magnitude that required so much prior planning and integration. Field Artillery Soldiers were able to ensure their AFATDS were properly linked and prepared to processes fire missions against a dynamic enemy. At the same time, pilots had the opportunity to call for and adjust fire on the objective, which are skills that are often neglected as other training takes priority. Some of the other benefits of this exercise include the realization that radio operators have lost the art of radio brevity and concise transmissions. This was also the first decisive action exercise many of the Soldiers participated in which forced them to relearn the skills inherent in our Army 15 years ago. One of the biggest benefits of this exercise was simply having the opportunity to have professional discussions about each organization's capabilities and work together to achieve success against an enemy. Soldiers admitted they had fun learning, training and developing the processes necessary to successfully employ a joint air attack team.

The authors would like to thank the Mission Training Complex staff at Fort Stewart, Ga. for their tireless efforts to ensure each exercise was as realistic as possible and provide Soldiers the best environment to learn and hone the skills to win on the battlefield.

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Capt. Jason Galletta currently serves as the assistant fire support officer for the 3rd Combat Aviation Brigade, 3rd Infantry Division, Hunter Army Airfield, Ga.

Figure 4. Lateral separation. (Department of the Army, Field Manual 3-04. 126, Figure C-1)



How to create theater security cooperation while deployed

By Maj. Carrie Brunner

“I shall proceed from the simple to the complex. But in war more than in any other subject we must begin by looking at the nature of the whole; for here more than elsewhere the part and the whole must always be thought of together.”

Maj. Gen. Carl von Clausewitz

Joint Publication 3-0 references theater security cooperation (TSC) as an important mission which enables units to establish, maintain and enhance relationships with U.S. allies and partners as a shaping effort to strengthen global security. TSC also enhances national security interests, deters conflict and sets conditions for future contingency operations.

This article offers insights and recommendations reflecting on 75th Field Artillery Brigade's TSC experiences in the U.S. Army Central Command/U.S. Central Command area of operations (AO).

Background

Soldiers in 75th Field Artillery Brigade Headquarters deployed December 2014 to September 2015 to the CENTCOM AO to serve as the Force Field Artillery Headquarters in support of Operation Spartan Shield (OSS). The brigade's primary mission entailed theater security cooperation focusing on field artillery centric engagements with an overarching goal to enhance partner-nation land force capacity and improve interoperability on the Arabian Peninsula. The brigade re-established, maintained and strengthened partnerships with various field artillery and Fires organizations from nine sep-

arate countries to include: Jordan, Kuwait, United Arab Emirates (UAE), Saudi Arabia, Egypt, Tajikistan, Qatar, Oman and Bahrain. The Soldiers conducted over 40 engagements encompassing over 25 senior leader engagements, three seminars, three planning conferences, seven information exchanges, four exercises and two cultural events. TSC highlights included a live-fire exercise (LFX) in Jordan, two field artillery seminars in UAE and an information exchange in Dushanbe, Tajikistan.

Developing your team

Identifying and developing your team early is essential to TSC operations. Prior to deploying, identify your overall TSC lead and respective country leads. This affords time for personnel to cross-talk with the unit currently deployed and gain knowledge of current TSC efforts. It also enables team members to conduct research and independent studies on their respective country to include, but not limited to culture, current politics, history, doctrine and foreign disclosure policies.

Organization of the TSC team included one officer in charge (a major), seven country leads (chief warrant officer 2-captain), plan-



Soldiers in 3rd Battalion, 197th Field Artillery conduct a combined high mobility artillery rocket system live-fire exercise with the Jordanian 29th Royal HIMARS Battalion and the Emirates 97th Heavy Rocket Regiment in Jordan in September 2015 to improve interoperability between nations. (Courtesy photo)

ning teams (chief warrant officer 2-major), and subject matter experts (sergeant first class-major). A few of the country leads were dual-hatted with two countries due to other mission requirements. The TSC team worked collectively to assist when needed. The unit gained a dedicated interpreter upon arrival to theater.

The TSC officer in charge manages and synchronizes the country leads efforts; and serves as the interface to ARCENT's International Military Affairs Office and country desk officers. The country leads are the conduits to their respective country counterpart in developing and executing TSC related events. The country leads work in coordination with planning teams on staff to develop concepts for information exchanges, seminars and exercises based on input from their respective partner nation counterpart. The subject matter experts (SME) are those skilled in FA crafts such as targeting and fire support identified to support a TSC event.

The subordinate units under brigade provided an option for SME support. This was advantageous for units residing in the same country and in close proximity to the unit's partner-nation counterpart, specifically UAE, Kuwait and Jordan. Other FA units in theater provide another option for SME support pending availability.

Where to start

Key elements of TSC include an overall strategy, prioritized events, and a thorough planning process. Upon arriving to theater, units typically fall under the planning or executing cycle of TSC exercises. Major TSC exercises in the ARCENT/CENTCOM AO

are typically planned two years in advance. Units have the ability to influence exercises by attending planning conferences throughout the year prior to execution. The major reoccurring field artillery TSC exercise is Eager Lion, which is a multinational exercise designed to strengthen military-to-military relationships, increase interoperability between partner nations and enhance regional security and stability.

Some partner-nations agree to participate in these exercises early through formal memorandums of agreement; whereas others may not. Units also have the ability to conduct TSC events out-of-cycle (OOC), or unit initiated, bottom-up refined events not on the ARCENT two-year plan. A key to amount and type is a mixture of relationships and experiences from the previous units, the level of interaction, funding and resources. Ultimately the partner-nation counterparts decide if an event will occur or not.

In order to conduct TSC, 75th FA Brigade applied an eight-step model to build persistent relationships.

Conducting multilateral exercises maximizes opportunities to increase interoperability. However, there are many factors that create challenges ranging from re-establishing relationships, confidentiality agreements and timing. For example, the period leading up to, and after, Ramadan reduces the operational tempo and level of involvement of TSC events due to obligations of the respective countries who adhere to Ramadan practices.

RESET designates a level where a partnership becomes established or re-established starting from ground zero. Levels One

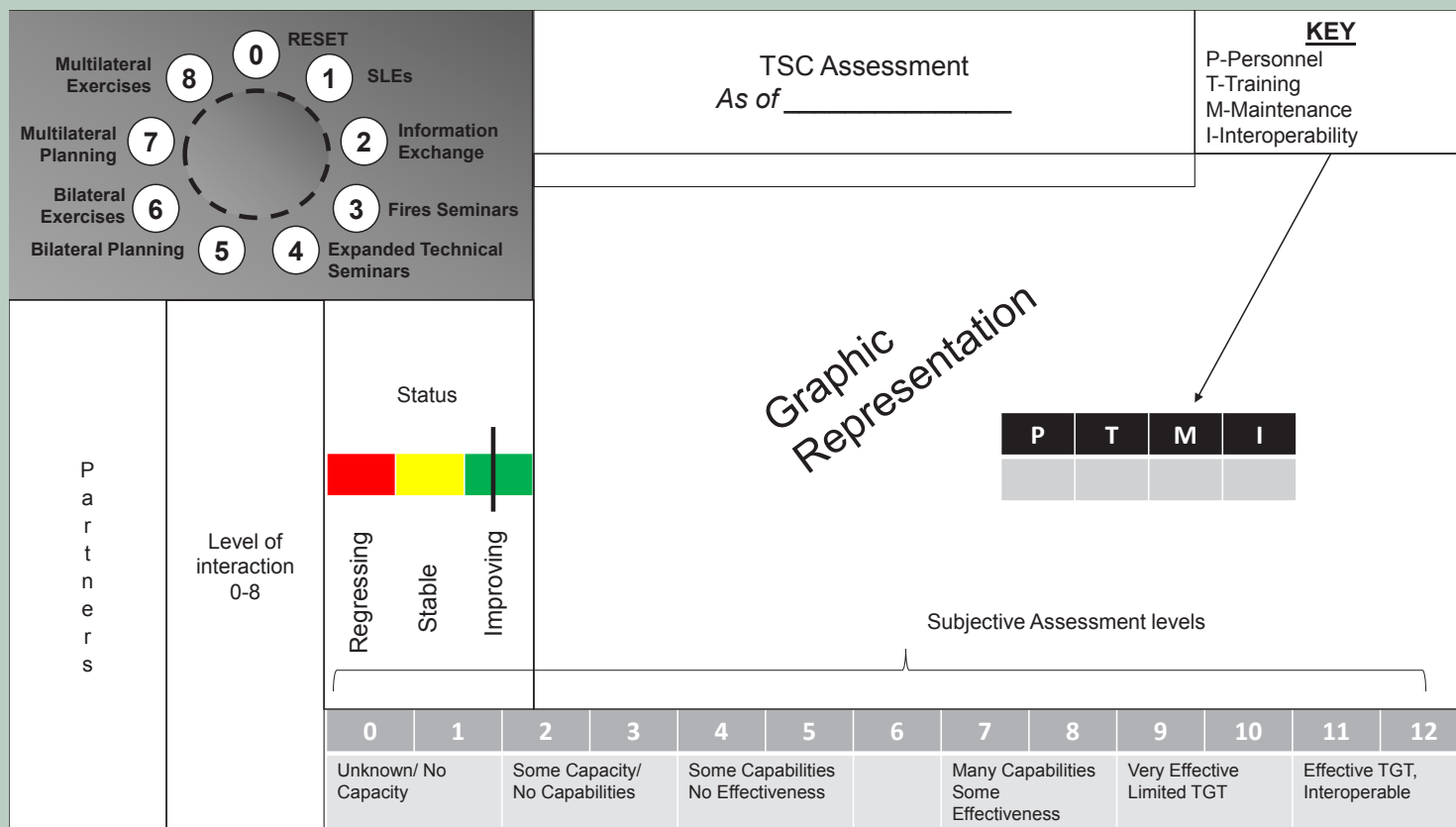


Figure 1. TSC Assessment chart. (Courtesy illustration)

through Four reflect opportunities to engage partners with key leaders, share information, and increase proficiency of field artillery skill-level tasks which can create bilateral events.

Information exchanges and Fires seminars are the building blocks for bilateral and multilateral exercises. The *Tough as Diamonds Brigade* found that information exchanges and Fires seminar were the best opportunities to advance partner relations. Understanding the needs of the partner-nation counterpart and developing a solid plan to support the event sets the conditions for positive relationships and more events. TSC operations are not easy by any means as they involve commitment on both the unit and partner-nation counterpart, planning and resourcing.

Coordinating TSC events requires a formal memorandum signed by the unit commander (O-6), at a minimum of 30 days prior to the requested date of the event, submitted to the ARCENT foreign area officer or country desk officer. The unit also translates the memorandum through the unit's interpreter or through other assistance prior to submission. The memorandum progresses forward to the respective country embassy point of contact (POC) who provides the request to the partner-nation counterpart POC. The partner-nation either approves, declines or provides alternative dates.

Senior leader engagements

The senior leader engagement (SLE) is the critical point in developing a relationship with a new partner. It is recommended that within 90 days of deployment, the unit commander establishes an initial introduction with each respective partner-nation counterpart. The redeploying unit is vital in assisting the incoming unit commander with SLEs upon arrival to theater. This is possible with early planning and obtaining passports and visas six months prior to deploying. The outgoing commander often attends these SLEs in order to introduce their replacement.

Establishing the initial SLE early gives the staff time to plan and coordinate events. During the initial SLE, key leaders conduct introductions and establish rapport with their counterpart. The foreign area officers for each respective country are valuable assets that help identify talking points and other background information to assist with a successful engagement. Topics of conversation generally include work experience, travel and hobbies. In addition, presenting a small gift offers a sign of appreciation from the unit and is customary among the different cultures.

It is a good opportunity during the initial SLE to schedule a follow-on meeting shortly after to discuss future events throughout the unit's time in theater. Work to build a solid relationship first and offer ideas about what type of events are realistic and achievable. By understanding the current level of each country counterpart, units can work in conjunction with them to solidify a plan that works toward increasing FA capabilities and interoperability. After the event concludes, an executive summary captures information to share and provides continuity.

Information exchanges

During information exchanges, subject matter experts provide knowledge to partner-nation counterparts on requested areas of interest. Often a limited number of personnel participate in a day or several days of training. Due to location and equipment, some partner-nations may desire specific topics relating to field artillery (cannon or rocket) or other areas such as field artillery support in mountainous terrain. Providing training aids in the form of briefings, maps, products, dry erase boards or other equipment facilitates a shared understanding. Also, incorporating practical exercises assists with reinforcing material discussed.



Soldiers in 3rd Battalion, 197th Field Artillery conduct a combined high mobility artillery rocket system (HIMARS) live-fire exercise with the Jordanian 29th Royal HIMARS Battalion and the Emirates 97th Heavy Rocket Regiment in Jordan in September 2015 to improve interoperability between nations. (Courtesy photo)

Expanded technical seminars

Field artillery seminars provide a great opportunity to share best practices and current tactics, techniques and procedures (TTPs). Seminars vary in duration, however, due to the country's location, members attending may be gone for several weeks leading up to and after based on available transportation assets. The partner nation requesting a seminar typically expresses interest in the topics of discussion or training. Common field artillery topics discussed include: High Mobility Artillery Rocket System (HIMARS)/cannon battalion operations, role and development of master gunners, targeting, Fires support and logistical support to artillery units.

The key to a successful seminar is extensive planning and coordination. The presenters have a crucial role in providing information and should have extensive knowledge on the subject. In addition, the unit's translator is essential in correctly translating products and conducting rehearsals with presenters to adhere to timelines. Develop a plan early and refine it based on the partner-nation's feedback. This is a great way to set the conditions prior to execution. See the FA seminar and UAE Targeting Exercise under "Best practices" for more details.

Bilateral planning/bilateral exercises

Bilateral planning is when a particular unit and partner-nation develop a plan to execute a bilateral event or exercise. Conducting a bilateral MLRS live-fire exercise is a premier example. Conducting bilateral planning in preparation of an exercise during a unit's time in theater is a great way to enhance partner-nation relationships as well as building capacity.

Multilateral planning/multilateral exercises

Multilateral planning includes a U.S. unit and two partner nations developing a plan to conduct a multilateral exercise involving all three different partner-nations. Prior to redeploying, 75th FA Brigade planned and executed a multilateral exercise with our Jordanian and UAE counterparts in September 2015. Eager Lion is also a prime example of a multilateral exercise. Multilateral exercises are typically annual or biannual events involving multiple countries. However, it is possible to conduct out of cycle if partner-nations are willing to participate.

Developing a strategy

Developing an overall strategy nested with higher campaign objectives is the key to successful TSC operations. TSC exercises identified on the ARCENT two-year planning cycle have allocated funding. Out of cycle TSC events are normally funded by the unit. Units that submit their OOC TSC events for the TSC fiscal year budget review are more likely to increase the chance of funding for the next fiscal quarter; however, it is not guaranteed. Funding considerations include travel for both personnel and equipment to the respective country, lodging and other associated fees. Typically the unit in theater will arrange the first set of SLEs, information exchanges and seminars for the few months in theater. This makes cross communication vitally important so the incoming unit understands upcoming requirements.

After receiving feedback from the country counterparts, establish a plan that identifies the major TSC events throughout the time in theater. Counterparts have varying levels of field artillery experience relating to equipment, training and resources. In addition, they may require assistance in different FA tasks based on their mission or geographic location. With these factors considered, take incremental steps toward a mutual plan that progresses the relationship and accomplishes goals that benefit the counterpart. Understanding the counterpart's needs and previous training helps solidify plans that address current needs and work to increase capacity and interoperability.

Assessment

Metrics are critical in determining the efforts toward building capacity and interoperability. The TSC team utilized the NATO task list as a guideline to determine mission essential tasks for partnering FA units. After looking at the FA tasks, the unit developed a metric that ranged from 0-12 to determine field artillery related capabilities and levels of interoperability. The low end of the scale reflected unknown or no capacity progressing to the higher end of the scale indicating effective targeting and interoperability. To capture TSC efforts and progress, the TSC team developed an assessment chart to provide a snapshot in time. The team made a subjective assessment that factored personnel, training, maintenance and interoperability. The assessment chart, depicted below, provides a status of the unit's TSC efforts nested with campaign objectives. This assessment informs higher commands how the unit's TSC efforts nest with the campaign objectives from a Fires warfighting function.

The road to success for TSC

The brigade found success in its TSC mission by focusing on cultural understanding, continuity and interoperable relationships between allies. Each country lead was well read in the culture, history and current politics of the country they were responsible for. This context is important in considering why a country is interested in sharing ideas. Cultural considerations also increase the partner nation's willingness to cooperate and makes them more receptive to information shared by the TSC personnel.

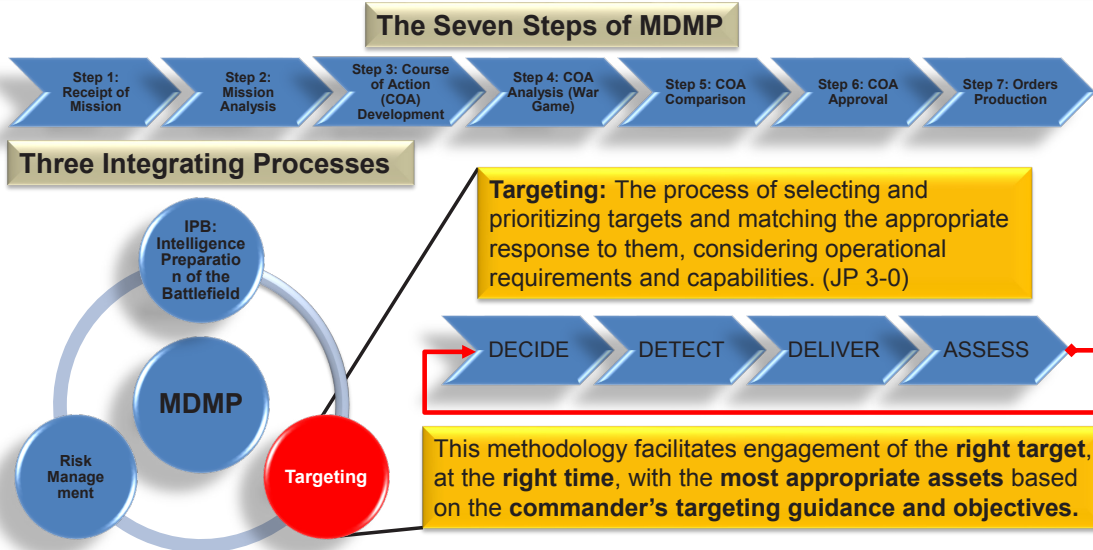
Best practices

Field artillery seminar

Soldiers in 75th FA conducted a seminar Feb. 16-18, 2015 in conjunction with 5th Battalion, 3rd Field Artillery Regiment at the Field Artillery Schoolhouse in Al-Ain, UAE with over 100 participants from the UAE Field Artillery Corp Staff, UAE Maneuver Staff, 97th Heavy Rocket Regiment leadership, and the Field Artillery School

Military Decision Making Process & Targeting

The **Military Decision Making Process (MDMP)** is an iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order (ADP 5-0).



1

Figure 2. The Military Decision Making Process and targeting. (Courtesy illustration)

House instructors and staff. Subject matter experts provided training on HIMARS/cannon battalion operations, role and development of master gunners, targeting, fires support and logistical support to artillery units. Prior to this exercise the country lead and planning staff brainstormed several ways to leverage cultural understanding. Some of the considerations were personal relationships, the typical UAELF workday, the midday call to prayer, break-out work groups and translation.

By factoring these considerations into the planning, the seminar had several social activities before, during and after the event to build rapport between the participating Emiratis and the presenters. The seminar timeline nested with the Emirati workday and call to prayer hours to maximize UAELF participation and recognize cultural considerations versus an American academic schedule. By tailoring the seminar to include break-out work groups, which comprised a small number of attendees of equal rank, enabled a means for open dialogue among participants. Acknowledging the Emiratis were astute in their doctrine, the TSC group also created and provided translated documents to assist Emiratis who did not understand English but were studious in their academics.

These cultural understandings and considerations led to a very productive seminar where the Emiratis were comfortable with the presenters, attentive to the material and encouraged to participate in the discussion. The discussions at the event opened up the opportunity for more training during the year. The Emiratis were especially interested in target mensuration and sensor to shooter relationships. They understood and appreciated how U.S. artillery doctrine focuses on accurate and timely predictive Fires and wanted to discuss more of the techniques so they can be more effective in utilizing their strategic resources.

UAE targeting exercise

The seminal event for 75th FA's TSC mission in UAE was the Targeting Exercise with the 97th HRR and Emirati Schoolhouse. Twenty-five personnel from the 97th HRR and UAELF FA School attended a demonstration of the deliberate and dynamic targeting process, including practical exercises in a brigade-level targeting cell. The demonstration showed current deliberate and dynamic targeting processes as it nests within military decision making process and targeting and the joint targeting cycle.

This exercise used current deliberate and dynamic targeting processes 75th FA utilized in its own missions. The targeting exercise was immensely successful with the Emiratis and generated a lot of discussion and debate on targeting considerations, when to act on intelligence, and how to capitalize on second and third order effects of strikes. The exercise was effective due to its low impact cost to set up, the ability to provide real examples with the material and the density of the doctrine being discussed.

The way ahead with the UAE is to capitalize on their advancement in technology and doctrine to increase the level of partnership between U.S. and Emirati forces. Future units should focus on conducting MDMP exchanges focused on intelligence preparation of the battlefield and collection, planning exercises prior to LFX's as well as tactical operation exercises. The FA keeping the discussion progressive and relevant will make for a stronger and closer relationship between the U.S. and UAE.

75th Field Artillery Brigade and Emirates at the August 2015 Targeting Exercise: Eager Lion

Partnership with the Jordanian Royal Artillery of the Hashemite Kingdom of Jordan and 75th FA began in January of 2015. ARCENT tasked the brigade with planning Eager Lion 15 in May of 2015.

Figure 4. Joint targeting cycle. (Courtesy illustration)

Prior to exercise execution, Soldiers from 5-3rd FAR conducted several subject matter expert exchanges to offer assistance and planning efforts in preparation of the exercise. The Jordanian and U.S. HIMARS of the 3-197th Field Artillery Regiment executed live Fires in Wadi Shadiya, Jordan, May 18, 2015 at the culmination of the event.

Tying together the successes from cultural understanding and studying continuity the TSC also looked for ways to build interoperability between all countries in the CENTCOM AOR. This does not preclude countries having compatibility with U.S. equipment and doctrine, but includes their compatibility with neighbors in the region. As such, establishing and improving dialogues between the Emirati and Jordanian HIMARS has helped in bridging the two militaries to attend mutual events.

The 75th FA Brigade found immense success in its TSC efforts throughout the CENTCOM AOR. However, the mission was not without obstacles and difficulties that required dedication and diligence for the staff to overcome. These obstacles presented themselves in





Target Working Group



Purpose: Bring the 75th FA BDE Staff together to **synchronize** targeting priorities, collection assets, and planning efforts, to **anticipate** emerging requirements, ensure **execution** of targets and make recommendations to the Commander

Chair: BDE S3
Host: BDE TGT Officer
Attendees: FSCoord, S2, IRSLO, EWO, TGT Officers, ALO, IO, PAO
Virtual: Targeting Representatives

Agenda/Staff Requirements:

- **Roll Call**
- **Assessment since last TWG** (Dynamic/Deliberate TGTs Struck)
- **Commander Guidance and priorities**
 - 75th FA BDE Targeting Task
 - Updated HPTL
- **Intel Summary**
 - Weather
 - Enemy Situation
 - Operations Update
 - ISR Synch Update
 - PIR Refinement
- **Target Nominations**
 - Current named operations
 - TGTs in Area of Operations
 - Other Agencies
- **Plans / FUOPS**
 - Commanders Guidance
 - Recommended shift in focus area (NAls / Ops Box)

POC: CW3 Mike Rider

Inputs:

Product	Responsibility	From Whom or What BR Event
Previous Cycle Targeting Guidance	BDE TO	Previous Targeting Approval Board
Previous Cycle Assessment	BDE TO	Assessments, CJTF, S2
Current HPTL	BDE TO	Previous Targeting Approval Board
Nominations	BDE TO	Action Officer/ BDE TWG
Weather, ISM ENY SITTEMP, Assessment	BDE S2	CJTF-OIR
Operational Timeline	BDE S3 (Rep)	Ops Synch / JTCB

Outputs/Decisions:

Product	Responsibility	From Whom or What BR Event
Proposed TGT Nominations	BDE TO	Targeting Approval Board
Nested Intel Collection Plan	BDE S2	Ops Synch / JTCB
HPTL	BDE TO	Targeting Approval Board

Target working group

TSC resource allocation and clearance, the effective use of available funding and assets, diplomatic limitations to the TSC effort and gift preparation.

Resource allocation and clearance was the major issue for the staff throughout their time with this mission. Finding what was available and effectively leveraging it to the mission was a constant challenge. ARCENT-scheduled TSC events are fully supported at all echelons. The friction point is trying to resource out-of-cycle or bottom-up refined events with partnered nations. There are diplomatic limitations to TSC efforts when it comes to moving equipment and Soldiers throughout theater. For example, using the theater's aviation assets took Soldiers two weeks to make connections adding a month of travel time when flying from UAE to Jordan to support an information exchange. Not only that, but it is difficult to secure funding and resources for these events if they are not forecasted in ARCENT's TSC plan. To mitigate this, negotiating with TSC nations for direct liaison authorized access to partner unit counterparts will facilitate better information flow and planning of future joint events. Also, allocating funds to a contingency line of accounting specifically designed to streamline the payment process for resourcing bottom-up/out-of-cycle TSC events is beneficial.

During the time in theater, the country leads benefitted from looking broadly across the TSC effort to leverage event opportunities. This prevented double efforts across the theater and helped

maintain a consistent narrative from the U.S. in those countries. Key leaders in CENTCOM partner nations have consistently asked for more exchange program opportunities for their Soldiers and officers. Officer/Soldier exchanges are often limited. Programs such as (mobile training teams (MTT) and international military education training (IMET) are not used to exploit this interest. This prevents TSC from maximizing the potential for more knowledgeable partner-nation counterparts in the future. Continuing to identify the available funding for IMET and MTTs, and providing partner nation leaders with the amount of available exchange programs or military training teams to their country greatly enhance the TSC effort. Coordinating a forum for a combined regional schoolhouse or training area also increases the dialogue and contribution of lessons learned between IRKS nations and the U.S.

After every interaction, especially with close and established partners, the country leads kept a meticulous record of gifts given and received. While ARCENT possesses a gift process, it was not conducive to support opportunity events. ARCENT requires several memos 60 days in advance to request gifts in support of TSC events like SLEs and exercises. Partner-nations do not confirm visits until the week or days prior, and that is also subject to change. Furthermore, the fluid nature of TSC events often result in opportunity engagements. The means for units to provide a gift on their own are limited by operational funds and legal constraints. Gift giving



Target Approval Board



Purpose: Gain approval for proposed Target Nominations, Intelligence Collection Plan, and proposed HPTL

Chair: BDE Commander
Host: BDE Targeting Officer
Attendees: FSCOORD, S2, IRSLO, EWO, TGT Officers, ALO, IO, PAO
Virtual: Targeting Representatives

Agenda/Staff Requirements:

- Roll Call
- Review Initial Commander's Targeting Guidance and priorities
- Intel Summary
 - PIRs
 - Enemy SITTEMP
 - ISR Synch Update
 - PIR Refinement
- Target Nominations
 - Targets for Approval
- HPTL Review
- Plans / FUOPS
 - Commanders Guidance
 - Recommended shift in focus area (NAIs / Ops Box)

Inputs:

Product	Responsibility	From Whom or What BR Event
Proposed TGT Nominations	BDE TO	Targeting Approval Board
Nested Intel Collection Plan	BDE S2	Ops Synch / JTCB
HPTL	BDE TO	Targeting Approval Board

Outputs/Decisions:

Product	Responsibility	From Whom or What BR Event
Approved TGT Nominations	BDE Commander	Targeting Approval Board
Approved ICP	BDE Commander	Ops Synch / JTCB
Approved HPTL	BDE Commander	Targeting Approval Board

Target approval board

is a cultural sensitivity and important part of building positive TSC partnerships. The brigade was able to provide gifts and procure extras as contingencies. Recommend looking at processes to procure alternative means of funding or other gifts to support lower-level unit level engagements and/or an emergency gift process to support out-of-cycle engagements.

Helpful tips

Prior to deployment, units will find more success by conducting the following:

- Identify unit TSC officer in charge (OIC). Knowledge, skills and abilities for this position include planning, managing, organizing, interpersonal, self-starter and communication (both in verbal and writing).
- Identify country leads for each partner-nation.
- Identify planning teams on staff to assist country leads with engagement planning and resourcing.
- Identify your SMEs who will travel to different countries for engagements (consider officers, warrant officers and NCOs).
- Conduct independent studies of each country to include culture, military organization, hierarchy/structure, equipment, personnel and maintenance.
- Utilize the foreign area officer or local disclosure representatives to understand any limitations and restrictions with information sharing on unit capabilities and equipment.

- Obtain visas for each country
 - Each country has varying requirements. The link below provides the most current information on foreign travel: <https://travel.state.gov/content/travel/en.html>
 - Bring a civilian and government passport. Senior leaders should apply for dual-passports.
 - Obtain gifts:
 - The process to obtain gifts in theater typically takes up to a minimum of 60 days if approved; initial key leader engagements occur within the first 30 days of arrival.
 - Calculate the number of countries; at a minimum identify an initial and farewell gift for each country.
 - Recommend creating unit gifts by utilizing R&U and CLIV from the local wood shop.
 - Consider seminar gifts for attendees.
 - Plan for emergency gifts; there are often times engagement occur with short notice and or other dignitaries are present.
 - Communicate and share information with current unit deployed.
 - Identify major TSC exercises (roles and responsibilities).
 - Identify events and start the iterative planning process on how the unit will support the event (personnel and equipment).
- Maj. Carrie Brunner is the 75th Field Artillery Brigade simulations operations officer and brigade assistant S3. Brunner was the officer in charge for the theater security cooperation mission while deployed.*

The 131A talent management gap

An example of rethinking promotions and assignments for the field artillery targeting technician

By Chief Warrant Officer 3 Jesse R. Crifasi

Introduction

Gen. Raymond Odierno, 38th Chief of Staff of the U.S. Army, recently published "Leader development and talent management, The Army competitive advantage" in Military Review. He emphasized greatly the most valuable asset the Army possesses today, its leaders. He references the Army Operating Concept: "Win in a Complex World," and states;

"Our No. 1 priority must remain the development of our competitive advantage, our leaders. It (also) requires institutional processes that optimize the performance of Army professionals through rigorous education programs and a superior talent management process."

Field artillery warrant officers, MOS 131A, are officially part of the larger officer community. We wear the same branch insignia as the generalist FA officer, serve in the same units, and have the same core competencies, but there remains a cultural "separate but equal" stigma within our community. This disparity is "The talent management gap" and is adversely affecting the growth and development of 131As throughout our branch.

In the numerous war fighter forums, warrant officer professional development seminars, round table discussions, and feedback sessions in which we participate similar complaints arise consistently within the 131A community with respect to growth and talent development. Concerns such as "My commander does not let me work in my MTOE (modified table of organization and equipment) job; I have been at the battalion too long; I don't know what I am supposed to do in this job; I can't get to the Warrant Officer Advanced Course (WOAC); I got bumped down the PME (professional military education) Order of Merit list; I don't know where I am going to PCS next move cycle, etc.," are routinely voiced.

Commanders too are frustrated by their inability to predict when they may lose a 131A to a professional military education (PME) course or other career enhancing military schools. Commanders also lack predictability for their 131As within officer movement cycles and express disappointment in their

inability to shape their future assignment. Most concerning however, is the lack of high quality 131As in critical assignments at brigades, division artillery and divisions across the operational Army.

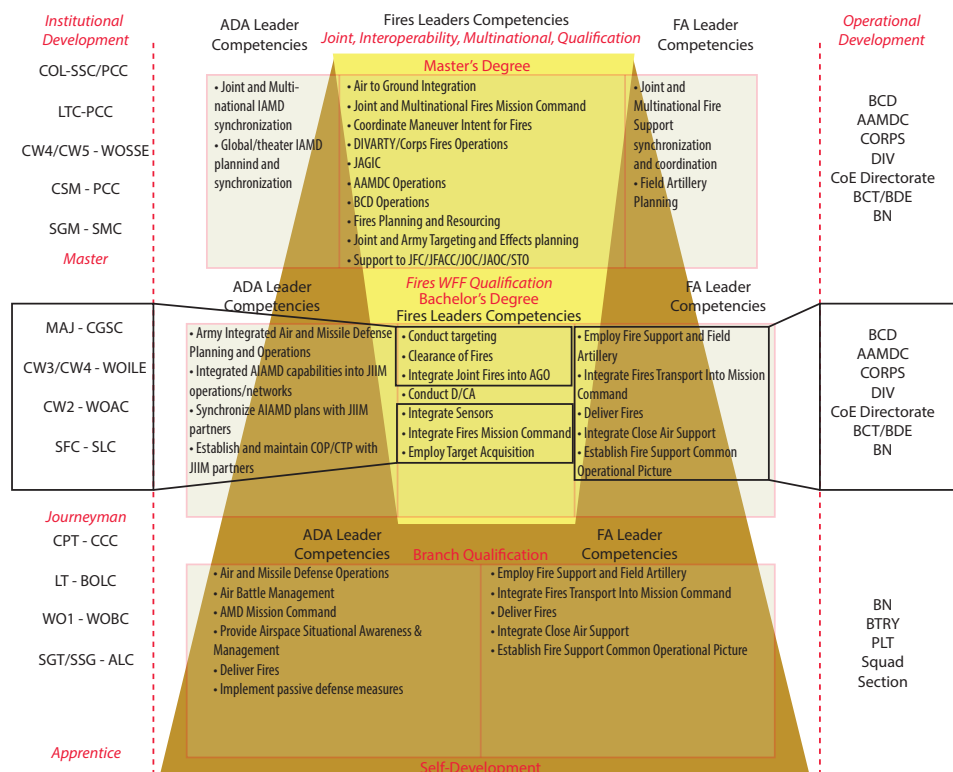
This is not to say we do not have talented and competent 131As in the WO cohort, however there is an undeniable negative performance perception throughout the operational Army. Some would attribute this to a failure in our accessions standards or a reduction in the availability of quality candidates and while these factors certainly contribute to the problem they are not the root cause. The lack of codified key developmental (KD) assignment designations and competitive select assignments within our current career map is what is creating the gap for 131As across the operational Army. It is institutional in nature and must be addressed through institutional change.

The solution for this challenge is the implementation of competitive KD and competitive select assignments into the 131A Professional Development Model. DA PAM 600-3, Commissioned Officer Profes-

sional Development and Career Management, defines a KD position as "one that is deemed fundamental to the development of an officer in his or her core branch or FA (Functional Area) competencies or deemed critical by senior Army leadership to provide experience across the Army's strategic mission." This definition certainly applies to our duties, scopes and responsibilities within operational Army units and is supported by the Fires Development Leader Strategy's competency framework. It clearly illustrates 131A critical and collective tasks as Fires Leader Competencies. See Figure 1.

These tasks are unquestionably the foundation of what 131As do. Codifying select positions as KD and competitive select assignments supports the Fires Leader Competency Framework and addresses the gap. Fortunately, the template for WO KD and competitive select assignments already exists. The engineer and Adjutant General branches have already successfully codified KD positions within DA PAM 600-3 for their WOs as will be explored later.

Figure 1. The Fires leaders competencies framework. (Rick Paape)



Where we are

The Command and General Staff College (CGSC), otherwise known as intermediate level education is mandatory for majors in order to be eligible for their 04 grade KD assignments. The selection and appointments to this course are centrally managed by Human Resources Command at Fort Knox, Ky. and scheduled in accordance with an officer's year group timeline. A major knows when and where in his or her timeline they will attend intermediate level education and more importantly where they can expect to serve their KD assignments years in advance. This framework is predictable and effective for both the officer and commander.

The 131A's Warrant Officer Advanced Course (WOAC) at Fort Sill, Okla. by contrast, must be requested by the individual 131A utilizing a DA Form 4187, "Request for Personnel Action," and approved by the 131A's commander. The requested class date is then forwarded to the 131A branch manager for placement on a PME Order of Merit List prioritized by time in grade. The 131A then awaits a seat to open up in the Army Training Requirements and Resource System (ATRRS) which can occur as early as 12 months prior to or as late as 90 days prior to the requested class date. The problems resulting in this process are numerous but the two most critical are:

- 1. The burden for meeting PME milestones is on the WO, whereas for the generalist officer the burden is on the FA branch.
- 2. The 4187 process gives the local unit commander the illusion of determining 131A's PME attendance date whereas the FA branch Order of Merit List truly determines it.

These two processes for education selection could not be more different, yet the Fires Leader Development Strategy characterizes both CGSC and WOAC as journeyman-level institutional development. Theoretically they should be administered similarly. Inadequacies in the PME parity have been addressed through many studies and panels over the years such as:

- 1. Total Warrant Officer Study (TWOS) published in 1986.
- 2. The Army Training and Leader Development Phase III-Warrant Officer Study (ATLDP PHIII), published in 2002.
- 3. The Warrant Officer Continuum of Learning Study (WOCLS), published in 2013.

These reports are thorough in their analysis for which they were commissioned.

AC/RC 120A ENGINEER WARRANT OFFICER CAREER MAP						26 February 2014
Years	0	3 4	9 10	16 17	22	
RANK	WO1	CW2	CW3	CW4	CW5	
PME	WOBC	WOAC	WOSC	WOSSC		
Functional Training	Sapper, Ranger, Airborne, Air Assault		CFMO Certification Course (ARNG)			
		USACE PROSPECT				
Key Developmental Assignments	Vertical Construction Platoon OIC	Vertical Construction Platoon OIC Survey and Design Detachment OIC	Combat Support Hospital Engineer Tech Bde Survey and Design Prime Power BMO (Heavy Maintenance)	Division Staff (En Staff Officer) Corps Staff (En Staff Officer) Service School-Training (Instructor)	USAES Regimental CWO Prime Power School Cmdr ASCC Staff (En Staff Officer)	
	Vertical Construction Platoon OIC	Prime Power Platoon OIC Fire Fighting Detachment OIC White House Service Operations (Asst FM) Warrant Officer Career College (TAC Officer)	White House Service Operations (FM) Service School-Training (Instructor / Writer)	USAES En Personnel Dev Office HRC-WO Career Management 120A/125D Prime Power Bn Staff Service School-Training (Trng Dev / Writer)	IMCOM JMD USACE	
Developmental / Broadening Assignments						
	AA/AS Degree (Complete by CW2)		Graduate Degree (Complete by CW5)			
Self Development			BA/BS Degree (Complete by CW4)			
			Fundamentals of Engineering (FE) Exam			
			Professional Engineer (PE) Exam, Project Management Professional (PMP) Exam			
			CSA Reading List, EN Commandant Reading List, Center of Military History Reading List 1-4, ADP 6-22, EN/Tech Association Membership/Contributions, Global Assessment Tool (GAT), Multi-Source Assessment and Feedback (MSAF)			
Credentials / Certifications						
			Engineer in Training (EIT), PMP			
			Facilities Planner			
			Certified Professional Constructor Building Plans Examiner Certified Survey Technician		PE	

Figure 2. Active component and Reserve component 120A Warrant Officer career map. (Courtesy illustration)

However, they have never realized the goal of complete officer integration in the areas of PME, career guidance and assignment predictability as we all know. Unfortunately, as of this writing, we are awaiting the release of the Warrant Officer 2025 Strategy which may address some of these issues. However, there will still be a need to conduct a detailed analysis on how successive assignment progression through the operational Army prepares 131As for future success. These questions essentially frame the talent management gap challenge:

- 1. What jobs, assignments and billets does the WO1, junior CW2, senior CW3, need to perform in order to be considered qualified for our senior strategic level positions in the operational Army?
- 2. What jobs make them qualified for serving as PME instructors, observer/controller trainers, fellowship members and program directors in the institutional and operational Army?
- 3. What jobs prepare them for operational assignments at the division, corps, echelons above corps (EAC) and joint organizations?

Our senior 131As currently provide the responses to these questions with the wisdom and experience of their long years of service; however, their responses are entirely subjective and biased (although not necessarily in a negative manner). Common backgrounds, assignments and experiences between junior WOs and senior WOs have become the evaluating criteria for assignment suitability. While this can be beneficial

and not without merit, there is no substitute for qualitative objective regulatory guidance.

In contrast, when similar questions are asked of battalion and brigade commanders substituting captains or junior majors for WOs you receive consistent answers. Those answers are consistent because they are already codified in DA PAM 600-3 which clearly stipulates that battery/ company/ troop commander, battalion/ brigade S3 and executive officer experiences are desirable for success as future Army strategic leaders. The 131A would be a more valuable asset to our FA community if our career guidance was as objectively defined and codified.

What do we want to be?

The existing 131A career map is simply inadequate for objective, qualitative and consistent professional growth. DA PAM 600-3 which states, "Officers are encouraged to read all branch and functional area (FA) chapters, regardless of branch, FA, military occupational specialty (MOS) or career field held, because unique and valuable lessons in Army culture and officer professional development are found in every chapter," provides us with the guidance needed to fix the gap.

When comparing our current career map with engineering technician's MOS 120A, significant lessons can be learned and applied to our own professional development model. See Figure 2.

The 120A can clearly see what his or her KD assignments are by rank and PME requirements. It is similar to a generalist of-

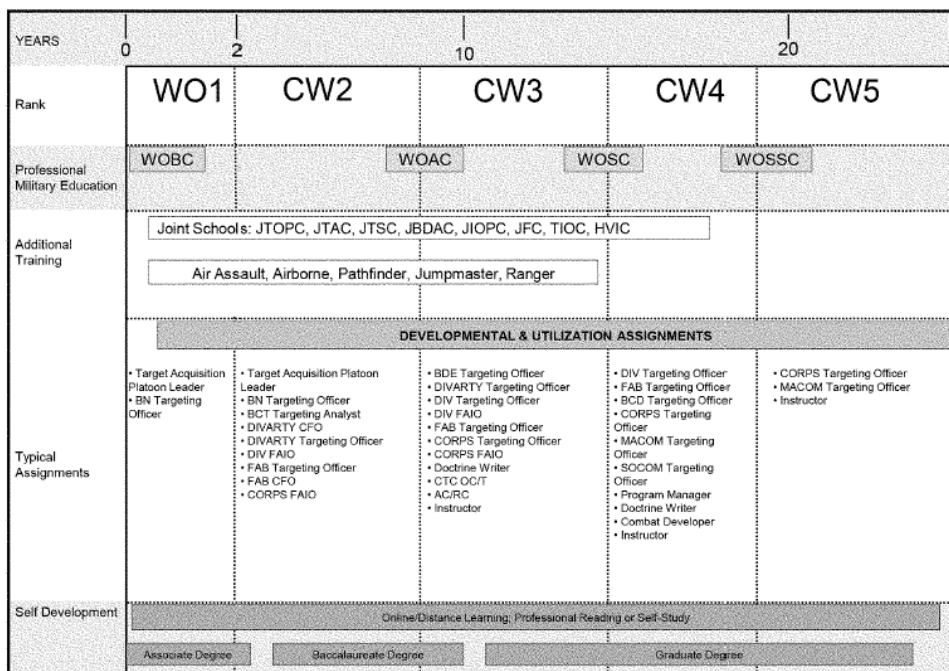


Figure 3. The 131A Field Artillery Warrant Officer career map. (Courtesy illustration)

ficer's career map and allows the engineer commander to more easily manage his or her 120As. When this career map is compared to the 131As the inadequacies are easy to distinguish. Our career map is simply not as objective or detailed leading us to ask the question above to address the gap. See Figure 3.

A detailed 131A career map will have specified KD assignments, detailed service timeline, and specific milestones for both PME and civilian education. This format would closely emulate the FA Officer Development Model, paralleling 131A KD assignments for WO1s, junior/ senior CW2s and CW3s with equivalent captain, major and lieutenant colonel KD assignments.

Additionally we should explore the idea of classifying 131A billets into disciplines or tracks. Anecdotal evidence shows that our most successful 131As have extensive backgrounds in intelligence, operations (infantry, field artillery, armor, cavalry, aviation) and command disciplines. These disciplines are the staff processes integral to any oper-

ational Army organization that an experienced 131A masters by the time they reach a strategic level. Historically, WOs within our cohort struggling at senior levels were limited by field artillery focused assignments and experiences early in their careers.

Field artillery focused assignments encompass three distinct processes of field artillery operations, fire support, target acquisition and Fires delivery to include cannon, rocket and fire direction. The Army, recognizing a need for specialization of knowledge in these areas, has corresponding enlisted MOSs, 13F, 13R/T, 13B/P and 13D, respectively, to execute successful FA operations. Generalist FA officers are expected to have working knowledge of all aspects of field artillery operations but not necessarily specialized knowledge reflecting the multi-disciplined approach to their career paths.

The 131A is a hybrid of specialization and generalist. They specialize in target acquisition early in their career but then become more operational and intelligence process focused as they join staffs within combined arms team headquarters (i.e. brigade combat teams, division, corps, EAC). Warrant officers who are exclusively exposed to field artillery processes become narrowly focused and overly specialized. This "tunnel vision" of knowledge is detrimental to performance above battalion, resulting in one dimensional 131As who only have depth in FA enlisted specialization skill sets. Field artillery operations are clearly important but senior

131As require breadth of operational experience and knowledge beyond just those three components.

This controversial premise of specialization versus generalization appears counterintuitive to the definition of a FA WO; however, it is a rational argument considering our area of technical expertise, targeting. The Army Targeting Process, and all its associated technical processes, i.e. target acquisition, weaponeering, damage mitigation, counterfire, air to ground coordination, etc., is an integrating function by its nature similar to both composite risk management and intelligence preparation of the battlefield processes.

Targeting is the process that integrates the Fires warfighting function (WfF) into the Movement and Maneuver, Intelligence and most importantly Mission Command WfFs. This makes the 131As the integrators of these other WfFs under the all-encompassing Fires competency known as targeting. It is not possible to integrate these other WfFs effectively without knowing what they are and how they work. Unfortunately, we see this premise validated consistently as 131As who lack this understanding struggle within the operational Army. See Figure 4.

Our newest and most junior WOs have the steepest development curve in our current career map. During the first three years of their career, which occur almost exclusively at the battery and battalion, we expect our junior 131As to develop these multi-disciplinary skills sufficiently enough for success at higher echelons.

Unfortunately, existing FA battalion assignments rarely offer the opportunity to be exposed early to the aforementioned disciplines without becoming overly specialized in FA operations, especially in field artillery brigades. We see many junior 131As defaulting back to their former enlisted roles as fire supporters, master gunners and fire direction center chiefs during these initial critical years. This limits essential multi-dimensional development at the most impressionable time of the junior 131As career. Conversely, 131As that have had experiences and success along these multi-dimensional disciplines are highly valued by commanders who recognize that field artillery operations are simply one component of the integrated combined arms fight.

These multi-dimensional 131As are better prepared to operate successfully at the brigade level regardless of whether it is in an infantry, armor, Stryker brigade combat team or field artillery brigade. The Soldiers

Figure 4. Integrated targeting. (Rick Paape)



131A KEY DEVELOPMENT PROGRESSION CHART

YEARS WO SERVICE		0 Year	1-2 Years	3-4 Years	5-6 Years	7-8 Years	9-10 Years	11-12 Years	13-14 Years	15-16 Years	16+ Years		
RANK		WO1	WO1	CW2	CW2	CW3	CW3	CW4	CW4	CW5	CW5		
MILITARY EDUCATION		WOBC			WOAC		WOILE		WOSSC	SENIOR STAFF COLLEGE			
CIV ED MILESTONES			ASSOCIATES DEGREE			BACHELORS DEGREE			MASTERS DEGREE/ DOCTORATE				
TRACKS	CONVENTIONAL FORCES												
	INTELLIGENCE		FA BN S2	BCT/ FAB FAIO		DIV FAIO		CORPS FAIO		COCOM FAIO			
	OPERATIONS		*FA BN TARGO/ CFO			*IBCT/ ABCT TARGO			*DIVARTY TARGO		*DIV/ CORP TARGO		
	COMMAND		*FA BN TA PLT LDR	*FAB/ DIVARTY TA PLT LDR		TAB CDR					COCOM DEPUTY COF		
	FAB		*FAB TA PLT LDR	FAB CFO	FAB FAIO	*FAB TARGO							
	CAB				CAB TARGO								
	BCD					FAIO	TARGO	*SR. TARGO	DEPUTY FSCOORD				
	SPECIALIZED FORCES												
	CIVIL AFFAIRS				CA BN TARGO	CA BDE TARGO							
	RGR/ SF			*RGR BN TARGO/ CFO		*RGR REGIMENTAL/ SF GROUP TARGO			USASOC CHIEF OF TARGETING				
	CYBER					CYBER FS PLANNER/ FSCOORD			ARCYBER TARGO/ CYBERCOM TGT CHIEF		JOINT CYBER CENTER TARGO		
	INSTITUTIONAL FORCES												
	OC/ T						*CTC OC/T			*CTCD OC/T			
	INSTRUCTOR					*WOCC TAC	*WOBC INSTRUCTOR			*WOAC INSTRUCTOR		*WOSC/ WOSSC/ SSC INTSTRUCTOR	
	DEVELOPERS									COMBATE DEVELOPER/ DOCTRINE WRITER		PROGRAM/ DIRECTORATE MANAGER	
	TARGETING CENTER									TARGET DEVELOPER		PROGRAM MANAGER	
BROADENING ASSIGNMENTS													
TRACKS	OPERATIONS		HHB XO			BCT FSO/ FA BN S3			FAB S3		DIV DEPUTY FSCOORD/ DIVARTY S3		
			FA BN AS3			FAB AS3			DIVARTY AS3				
	INTELLIGENCE					FAB S2			DIVARTY S2				
	STRATEGIC					STO MANAGER			COUNTER TERROISM TASK FORCES		DEFENSE NUCLEAR THREAT REDUCTION AGENCY		
	OTHER		ARSTAFF WO ADJUTANT			TRAINING WITH INDUSTRY/ FELLOWSHIP PROGRAMS/ GRAD DEGREE PROGRAM					DEPARTMENT OF STATE/ FBI/ BATF		
ADDITIONAL DUTIES													
	BN/ BDE/ DIV DUTIES	UNIT STATUS REPORTING OFFICER				BDE PRECISION FIRES PROGRAM MANAGER		DIV/ CORP PRECISION FIRES PROGRAM MANAGER		COCOM PRECISION FIRES PROGRAM MANAGER			
		SAFETY OFFICER											
		AIR OFFICER											
		PHYSICAL SECURITY OFFICER											

*BOLD FACE DENOTES KEY DEVELOPMENTAL ASSIGNMENTS

Figure 5. The proposed 131A key development progress chart. (Courtesy illustration)

simply cannot develop one dimensionally and expect to provide the best possible service to our units and commanders nor groom senior 131As for positions requiring strategic thought. The proposed progression chart addresses the gap institutionally (Figure 5). It is not a final proposal rather its purpose is to illustrate an example of a sophisticated career development model we should pursue.

Broadening assignments are an exciting topic of discussion within senior warrant officer leader groups in the Army. When we examine broadening assignments for 131As we should be open to the idea of characterizing billets traditionally reserved for generalist officers as local broadening opportunities (LBO). Positions such as executive officers (XO), assistant S3s, S2s and target acquisition battery (TAB) commanders make good 131A broadening experiences precisely because they expose the 131A to all aspects of operations beyond the battery level.

This proposal is certainly contrary to our shared perception of traditional 131A roles and responsibilities, but anecdotal evidence shows that 131As who have done these jobs successfully are highly valued and well rewarded. As one junior CW2 stated, "Being a (TAB) XO opened my eyes to the wider world of how the Army works and my role in it." Other 131As have had similar experiences performing well as FA battalion S3s, fire support officers and S2s. These 131As were

selected over generalist officers because of their abilities rather than rank or distinction as a WO.

Commanders are empowered to place the right officer in the right job at the right time for the success of his or her organization. This practice is not new nor unique to the 131A community and should not be discouraged, rather we should embrace and institutionalize it within our career map. Implementing this proposal will require overcoming some challenges, such as one currently residing in AR 614-100, Officer Assignment Policies, Details, and Transfers, which prevents assignment of WOs outside of properly coded positions without Department of the Army headquarters approval.¹¹ This restriction can be addressed with a Human Resource Command waiver and can easily ensure access to these opportunities. LBOs would create more experienced, confident, valued and competitive 131As across the operational Army.

Instituting a competitive assignment process is the next logical step to officer integration for the 131A. Competitive assignments within the Army ensure only the most qualified officers rise to top levels of leadership and exercise the influence and inspiration that is called for in the Fires Leadership Development Strategy.¹² Top performing generalist officers are assigned to KD positions in order to ensure they are the most qualified for senior positions.

Clearly, there is no equating the 131A assignments with those of generalist FA officers; however, as Fires leaders we are afforded unique opportunities to shape unit policies and procedures. This trust, given to us by our commanders, should not be taken lightly and we should ensure only the best performing 131As are influencing and inspiring their organizations.

Fortunately generalist officers have an already proven framework for instituting competitive selection rates for PME, promotions and, most importantly, command selection. The below visualization model depicts a command selection rate of .00005 percent for captains aspiring to brigade/ DIVARTY 06-level command. It clearly demonstrates just how seriously the Army vets its senior leaders (See Figure 6).

As professionals, we too should dedicate ourselves to selecting only the best, most qualified, 131As for assignments in key billets. Currently there exists no objective process for identifying top performers outside the Officer Evaluation Report (OER) and promotion processes. Our MTOE billets simply identify a WO grade for a position with possibly an ASI (additional skill identifier) or SQI (skill qualification identifier) to denote an airborne or ranger qualification discriminator. Officer Record Briefs have no way to distinguish challenging assignments from non-challenging ones. We can only deduce this by screening OERs, the disclo-

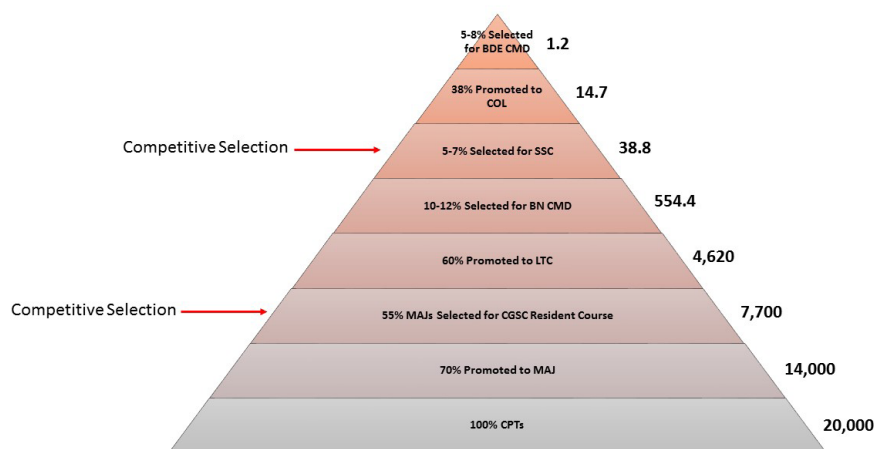


Figure 6. A generalized illustration of the officer competitive selections. (Courtesy illustration)

sure of which is entirely voluntary on the individual being vetted for a potential assignment. Only a handful of senior 131A leaders, at various agencies throughout the Army, are entrusted with assignment selection vetting, further obfuscating the process.

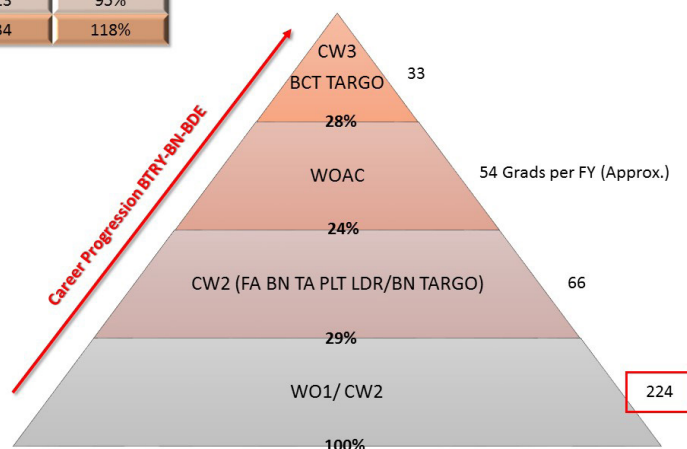
Picking the right 131A for an assignment starts with our WO Branch Assignment Manager at Human Resources Command who manages a population of approximately 450 131As from WO1 to CW5. Branch assigns 131As based on the requirements of the Officer Distribution Plan (ODP) as stated in AR 614-100 to an installation. The senior 131A on the gaining installation reviews the incoming 131As records and sub-assigns, with or without commander's input, the 131A to a subordinate unit. The senior 131A for the gaining unit then repeats the process down

the line until the incoming 131A is in his or her assigned duty billet.

Unfortunately, the inbound 131A has little input in this process beyond stating his or her preferences. The real loss is that there is little to no regulatory guidance to leverage for a suitable assignment. Our most junior 131As are being told they can expect to be PCS'd every three to four years without any firm idea of where they may be going or what their future jobs may be. Many 131As are uniquely qualified for duty with highly specialized units but are not recognized as such on the career map. As a consequence we are losing many talented 131As who have become disenfranchised with this subjective process to the overall detriment of the FA community.

Figure 7. A visualization of the Brigade Combat Team TARGO competitive selections. (Courtesy illustration)

Branch Population Overview (3QTR FY15 Targeteer)			
GRADE	AUTH	O/H	GRADE STR%
W1/W2	224	213	95%
W3	114	134	118%



Additionally this removes our commanders from the talent management process. Commanders take their responsibilities as WO career managers seriously and therefore want to have a positive input into the process. Again, for the generalist officer there is a process to redress this but none exist for WOs. This culturally inherited process is a holdover from the days of the Warrant Officer Corp and contrary to the intent of the Officer Personnel Management System which states, "The goal of this subsystem (ODP) is to place the right officer in the right job at the right time."

Identifying which 131A assignments meet the KD classification is our first challenge when implementing this process. Let us use the brigade combat team (BCT) targeting officer (TARGO) position as an example for sake of exploration. If we agree that a BCT TARGO billet is a critical and essential assignment worthy of KD status, then logically we must ensure only the best CW3s are selected for that assignment. If we can agree that successful CW2s serving as target acquisition platoon leaders and TARGOs at the FA battalion (IBCT, ABCT, SBCT) provide the foundational growth for successful BCT TARGOs then these battalion-level assignments should also be competitive select assignments. Lastly, if we agree that our BCT TARGOs should be graduates of WOAC, then WOAC itself should also be competitive select, with the best graduates assigned as BCT TARGOs. The below visualization model (Figure 7) shows how to competitively select the top 15 percent of total WO1/ CW2 population to fill the BCT TARGO billets throughout the operational Army. This would install a top performing CW3 in a quality organization and send a clear message that these 131As are our best.

The combination of successful past performance, in the right developmental billet, with the requisite PME is the framework we should adopt when deciding which KD assignments feed others. This is similar to the generalist officer's KD framework and can be implemented for almost any 131A assignment deemed KD worthy. Foundational success at the lowest echelons will ensure success at the highest.

Closing

We have seen profound changes within the FA branch over the last five years. Reorganization of operational Army field artillery units, re-commitment to field artillery technical proficiencies and integration of air defense and field artillery competencies are

just some of the bold initiatives heralding the future of our branch. KD time and competitive select assignments implementation for 131As is the next bold step for the future which should not be feared but embraced eagerly. Institutionalizing KD and competitive assignments will provide future 131As with performance expectations that will be clear, unambiguous and objective benefiting our cohort immensely which in turn benefits our units, commanders and the Army.

Addendum

Since initial writing two key documents have emerged that may fundamentally transform the perceptions of the 131A roles and functions within FA organizations, The Army Warrant Officer 2025 Strategy (WO2025) and 131A Systems Integrator Information Paper. Thankfully they provide some focus and clarity for the future of our cohort but not necessarily in well understood ways. A brief post analysis may provide some additional thought on the topic.

WO 2025 Strategy gives us impactful and relevant guidance early in the introduction: "Warrant officers, as the Army's premier land force technical experts and systems integrators, will be expected to provide expedient solutions to increasingly complex problems. In their unique roles, warrant officers must possess the deep knowledge and technical expertise to integrate systems throughout the force, and be able to develop innovative methods to support future requirements."

This statement fundamentally alters the current understanding of the role of a 131A. It contradicts DA PAM 600-3's 131A Unique Attributes definition:

"Field artillery warrant officers must possess the same attributes of an FA officer as well as a high degree of technical and tactical knowledge of the targeting process, sensors, delivery assets and their employment."

Additionally, nowhere in the PAM's detailed explanation of 131A roles and functions is a requirement to be "integrators of systems" found. The WO 2025 Strategy's introductory statement is purposefully ambiguous, essentially associating WO MOS's core competencies with technical systems. Technical systems are easily conceptualized as a piece of equipment i.e. helicopters, radars or computers, but not necessarily staff work which is often considered a process. Targeting is characterized as a process that is a critical component of the Fires WfF. The

Fires WfF itself is characterized as a "set of related tasks and systems that provide collective and coordinated use of Army indirect Fires, air and missile defense and joint Fires through the targeting process."

This contradiction only raises more questions. Is targeting an inherently tactical process or is targeting an inherently technical system? Is it both and if so what is the 131As role with facilitating it as stipulated in DA PAM 600-3?

Our leadership has moved forward with this and published an information paper on a new career development initiative in a worthwhile attempt ensuring future relevancy. Information Paper "131A Mission Command/ Sensor (System Integrator)" is a bold document associating our technical roles inextricably with the Advanced Field Artillery Tactical Data System (AFATDS). Its stated purpose is "to update the operational and generating force on the MOS 131A, field artillery targeting technician, modernization efforts. Our 131As will continue their transition from radar technicians to targeting technicians by assuming the role of mission command systems and sensors integrators. We will utilize the modernized AFATDS as the central Fires mission command tool to dramatically improve integration of organic and joint targeting sensors and effective data sharing of Army and joint mission command systems. This will enable the targeting process and fire support planning to deliver accurate and timely Fires in support of the commander's scheme of maneuver."

The boldness of the information paper is in its intimation that targeting is an inherently technical system. Arguably it can be said that it is as a product of mission command's operational science but the "process of selecting and prioritizing targets and matching the appropriate response to them considering requirement and capabilities" is inherently tactical. It is part of an overall strategy which implies mission command's operational art and operational science does it not? The commander who is overall responsible for his or her targeting effort uses both art and science tools to accomplish the mission. The 131A is the integrator of the art, tactical, and science, technical, of targeting as the commander's representative on the staff. Is this something the information paper necessarily captures? Is it something we want it to capture? Will our career development model be altered to reflect this

pivot from tactician and technician to just technical integration? What will that look like for the BCT or division staff five or ten years from now?

These questions will no doubt trickle down into the operational force and generate much needed thoughtful debate about the future of our career field. It has taken years to educate and inform commanders that their 131As are the chief proponents of targeting within their organizations. Now we seem to be communicating a more limited role as pure technicians especially in our contributions to the mission command WfF. Time will tell what the second and third order effects will be and as the WO 2025 Strategy assures us that "the future force must be prepared to 'Win in a Complex World' with adaptive leaders, resilient Soldiers, and cohesive teams, including professional warrant officers of character, competence and commitment, who thrive in complex and uncertain environments."

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Chief Warrant Officer 3 Jesse R. Crifasi, Field Artillery, U.S. Army holds an associate of applied science in General Studies and is currently an undergraduate student at Fayetteville State University. He's served active-duty for 19 years and has been deployed on numerous occasions in support of both Operation Iraqi Freedom and Operation Enduring Freedom.

Warrior and Dutch air defenders

First to fire – Eerst te vuren

By Capt. Guster Cunningham III

Three large plumes of white sand rose from the ground as the U.S. Air Force C-17 Globemaster III cargo jet touched down on a large flat of New Mexico at an undisclosed landing strip.

The jet delivered Patriot missile launching equipment during a joint emergency deployment readiness exercise to White Sands Missile Range Complex June 19.

“Our weeklong training event with our Dutch allies brought to life the concepts we train on every day: providing air and missile defense in a joint and combined environment,” said Lt. Col. Bruce Bredlow, 2nd Battalion, 43rd Air Defense Artillery Regiment, Warriors, commander. “The proficiency of our Dutch Patriot counterparts was exceptional, and crewmembers from both countries learned valuable lessons that they will incorporate into future training events and operations.”

The participants of the exercise were air defenders of D Battery, *Dynasty*, 2-43rd ADA, and Dutch air defenders from Fire Unit 1, 802 Patriot Squadron, Royal Netherlands Ground-based Air Defense Command.

The day before air defenders from both units participated in training by U.S.

Air Force crewmembers on how to properly load, lash and unload Patriot equipment at Biggs Army Air Field. The air defenders were in the beginning stages of learning to work together and getting to know each other through the shared hardship of the El Paso heat intensified by the reflection of the heatwaves off the tarmac.

Early in the morning of June 20, *Dynasty Battery* and Fire Unit 1 received word that they were to “jump” to their new tactical location located at McGregor Training Complex. They quickly packed their equipment and conducted tactical convoys.

Once all vehicles arrived, air defenders from the advanced party quickly led the Patriot launchers and support vehicles to their designated locations in the Patriot site in order to prepare for future operations.

The next three days consisted of air defenders from the two nations learning each other’s tactics, techniques and procedures on emplacing launch stations, radars, electronic power plants and the engagement control station.

The Soldiers of the *Warrior Battalion’s* C Battery conducted familiarization training on U.S. procedures concerning hasty decon-

tamination and donning of the M-50 Joint Service General Purpose Mask used for protection against chemical, biological, radiological and nuclear attacks.

There was a competition for best crew with the fastest time of raising the Patriot missile canisters to operational height manually, simulating a hydraulics failure. The crew with the fastest time was a joint nation team of Patriot fire control enhanced operators and maintainers who work in the engagement control with a time of 8 minutes, 5 seconds. However, when it came to military occupational specialty specific portion of the competition, a Dutch crew of “launcher dawgs” won with the overall fastest time of 8 minutes, 20 seconds.

“I have seen they are pretty knowledgeable with their system, they know their stuff,” said Sgt. Bryan Ducheneaux, Patriot fire control enhanced operator and maintainer, and part of the joint crew that won with the best overall time. “They fight a little bit differently than we do but again they know their stuff and are pretty motivated to be here.” The other member of the team was Staff Sgt. Luc den Hooglander, Patriot

United States Airmen land the Boeing C-17 Globemaster III cargo jet June 19 after transporting Patriot equipment from Biggs Army Airfield, Fort Bliss, Texas to the tactical Patriot site at White Sands Missile Range. This C-17 was one of two aircraft used to deliver equipment for the joint emergency deployment readiness exercise between D Battery "Dynasty," 2nd Battalion, 43rd Air Defense Artillery, 11th Imperial Air Defense Artillery Brigade and Fire Unit 1, 802 Patriot Squadron, Royal Netherlands Ground-based Air Defense Command. (Capt. Guster Cunningham III/11th ADA BDE)

Members of D Battery "Dynasty," 2nd Battalion, 43rd Air Defense Artillery, 11th Imperial Air Defense Artillery Brigade and Fire Unit 1, 802 Patriot Squadron, Royal Netherlands Ground-based Air Defense Command gather for a photo after the launcher (raising) completion at McGregor Range Complex June 23. (Capt. Guster Cunningham III/11th ADA BDE)



fire control enhanced operator and maintainer with the Dutch.

Cpl. Chris Gieling, Patriot launching station enhanced operator and maintainer, was part of the Dutch crew that had the best time in the launcher raising competition by military operational specialty.

"The best thing about training with the Warrior air defenders is the launching system procedures," said Gieling. "(Seeing) how we do it (make the patriot site operational), and how they do it."

He went on to say between the two procedural ways to make the system operational, the Warriors were enthusiastic about the Dutch procedures and the Dutch were enthusiastic about the American procedures.

On the morning of June 24, Dutch and Warrior air defenders reported to the first of two small-arms ranges set up for familiarization and building esprit de corps.

At the first range, they fired the newest 40 mm grenade-firing weapon, the M320 grenade launcher. All Soldiers received pre-marksanship instruction on the weapon with the standard range safety brief before they were allowed to fire the weapon.

The second range was a little more robust as the joint air defenders shared in the opportunity to fire the M2 50 caliber machine gun and the M16 rifle.

The next day was the culminating exercise for the week; the live fire of six Patriot missiles in simulated wartime conditions.

The three crews with the fastest times during the launcher competition were chosen for the live fire. The three crews, consisting each of six air defenders from both nations, were awarded for their efforts by being allowed to fire two missiles each into the blue skies of New Mexico to neutralize simulated ballistic missile threats. All six missiles destroyed their targets.

"It is a great experience to see how you guys do things," said Cpl. Tony Verweij, a Dutch Patriot launching station enhanced operator and maintainer. "We share our experiences and it is always good to work with Patriot partners – Patriot all the way!"

Col. Peter Gelen, Royal Netherlands Ground-based Air Defense Command commander, said not only did it give a chance to practice in a different environment with unknown challenges and obtain a new set of skills, but it also created an opportunity

to work side-by-side with a well-respected NATO partner in the field of integrated air missile defense.

"(We were able) to share our knowledge and ideas, strengthen the bond between our units and create new friendships, which altogether will help the both of us to do our job when called upon," said Gelen.

Joint training and readiness is a global force multiplier as either country can perform its ballistic missile defense mission anytime, anywhere.

"We have a long standing relationship with the Dutch air and missile defenders," said Col. Shana Peck, commander, 11th Air Defense Artillery Imperial Brigade. "The combined training event not only bolstered the trust and confidence in that relationship, but also enhanced the readiness and missile defense warfighting skills of our crews. Eleventh Brigade must remain ready to deploy to any geographic combatant command, and training with the Dutch provides some (European Command) experience cross leveling."

Capt. Guster Cunningham III is currently assigned to the 11th Air Defense Artillery Brigade, as the public affairs officer.



Chap. (Capt.) Aaron Oliver, 1st Battalion, 30th Field Artillery chaplain at Fort Sill, Okla., practices a sermon at the Old Post Chapel where he usually preaches. Oliver is a gay chaplain who appreciates the opportunity to serve his country. (Photo by Monica K. Guthrie/Fort Sill PAO)

Gay Army chaplain finds acceptance as Soldier

By Monica K. Guthrie

Some argue faith and being a member of the lesbian, gay, bisexual, transgender (LGBT) community are at odds with one another, however for one Fort Sill, Okla. chaplain the two are not incompatible.

"Some see the two, being gay and faith, as an inconsistency," said Chap. (Capt.) Aaron Oliver. "For me it never really was."

Oliver, chaplain for 1st Battalion, 30th Field Artillery, is gay.

"I think I've always known that I've been attracted to members of the same sex," said Oliver. "I just didn't put two and two together until I was 16. For three years I didn't tell anyone. It was awful feeling isolated and alone."

Oliver said he had a fear of rejection which only grew when people at his high school suspected or found out he was gay and threatened to beat him up if he came to school. Still he didn't tell anyone.

"It was a pretty horrible experience."

Living a "double life" grew to be a toil on Oliver but he began to gain confidence. When he was 19 he told his family he was gay. Oliver said he was fortunate to have a supportive family and that many gays have religious families, which can impact how the family members respond to someone coming out.

Despite the support, Oliver said it still took him a while to accept being gay and he became depressed, felt isolated and began searching for spiritual support.

"I called out to God for help," said Oliver. "I was in a really bad spot and that's when I started becoming more religious, and I started cultivating a prayer life. I started going to church because I realized I couldn't do it on my own."

The same year Oliver came out, he was also baptized.

"That's when I thought about going to seminary," he said. "I felt a calling from that point. My faith life helped me accept myself for being gay."

Military service

Oliver was born, raised and went to college in New Jersey. He left during his senior year of college and enlisted in the New Jersey National Guard as an infantryman in 2003.

Oliver said 9-11 played a part in his decision to join and he contacted a recruiter shortly after.

"I know people who were in the buildings that day," he said. "I'm sure it impacted people but there's something about coming from the area. I could see the twin towers every day. It certainly had an impact."

Oliver knew about the "Don't Ask, Don't Tell" policy entering the Army and said he heard stories about harassment and things that happened to Soldiers when others found out they were gay.

Still, he was not deterred.

"Since I was 18 I wanted to serve in the military and serve my country," he said.

"I was willing to risk ridicule, discharge or worse because that's how much I wanted to serve. Even with the policy. That was a very nerve-racking time. Under 'Don't Ask, Don't Tell,' I could have been discharged if I told people or people found out."

Oliver did tell a few people in basic training and later at his unit opened up to others, still he said he was nervous. Since the National Guard drills on weekends Oliver was free to be himself during the week.

"I could live a double life -- uniform on the weekend and then a social life outside," he said. "I could be open. But there was always fear in the back of my mind. I would ask myself, 'is this going to be my last day in uniform? Is this the day I'm going to be found out?'"

Oliver deployed in 2004 to Guantanamo Bay, Cuba, with his New Jersey National Guard infantry unit. He told some of the Soldiers in his unit he was gay and that the response was lackluster.

"I don't think they really cared," said Oliver. "They valued me as a Soldier and a member of the team. I'm grateful for that. I think that people cared more about the mission than they did about my private life."

When his brother moved to Las Vegas, Oliver followed and joined the cavalry unit in the Nevada National Guard. Oliver said along with always wanting to serve he also wanted to be an officer and a member of the unit ministry team. To him, combining



The 1st Battalion, 30th Field Artillery Chap. (Capt.) Aaron Oliver (wearing ballcap) serves a meal to Soldiers in his unit during a day of training at Fort Sill, Okla. (Photo by Spc. Michale Boulton/130th FA)

all those desires together seemed to make sense by becoming a chaplain.

In Nevada, Oliver said he would talk with the chaplain about his interest in theology and attended different worship services. In 2008 Oliver was commissioned as a second lieutenant chaplain candidate and attended seminary in Yonkers, N.Y.

"I went to a very conservative seminary, an Eastern Orthodox seminary," said Oliver. "I was openly gay but still felt like I had to lead a double life. I could have cho-

sen a more gay-friendly church, but I agreed with their theology and the traditions of the church."

Dealing with "Don't Ask, Don't Tell" policies were stressful for Oliver. However he focused on his work and said he excelled during seminary. He was the student-body president and was completely devoted to serving the community.

"I wanted to serve my country so badly that I was willing to put that part of me aside," said Oliver. "I wanted to be ordained

and serve the church so bad that I was willing to put it aside again."

Then, in December 2010, the repeal law for "Don't Ask, Don't Tell," was signed, and in September 2011 the law took effect. Now lesbian, gay, bisexual and transgender service members were free to announce their sexual preference without being afraid of military administrative reprisals.

"In December 2010, I was riding in Bronx, N.Y., with someone I was dating at the time and heard it on the radio," he said.



"I was surprised because I didn't expect it to happen that soon. I felt a sense of freedom which I'd been waiting for all those years."

Because of his experiences, Oliver said it is hard for him to put things into black and white categories. He said there were times where his faith wavered but because of the solid foundation he created when he was 19, and through a deep prayer life, he was able to persevere. He also believes he understands that there may be some who feel uncomfortable because of his sexual orientation and he tries to be sensitive to their feelings.

"My religious beliefs tell me that we're supposed to love people unconditionally, meeting them where they're at," he said. "I have to understand them and their background just as they have to understand mine. At the end of the day, they're still my brother or sister."

In 2011, Oliver finished seminary and returned to his cavalry unit in Nevada and was their battalion chaplain for three years. Then in 2014, Oliver decided to go active-duty leaving Las Vegas to come to Fort Sill where he is the 1-30th FA battalion chaplain. However, he didn't divulge

his private life to his command or to other chaplains when he arrived.

"I didn't tell people I was gay when I first got here because rightly or wrongly, I didn't want that to be the first impressions people had," he said. "I wanted to establish myself as a chaplain before I came out to anyone. I didn't want to be known as the 'gay chaplain.'"

Finally Oliver, in January 2015, came to the decision to tell his fellow chaplains and some members of his unit. The response was positive.

"The chaplains that I told were very supportive," he said. "That doesn't mean they agree with homosexuality, but we are professionals. As government workers we're pluralistic. We can have our personal views, and each chaplain has a faith-group endorser, but at the end of the day it's our job to support Soldiers and their families."

"Period."

Oliver serves as the pastor of Old Post Chapel and is one of the few chaplains that can perform same-sex marriages or union ceremonies. He can also teach Strong Bonds events with same sex couples.

"I hope to be a force multiplier and a resource," he said. "I would rather be seen as just another member of the team, opposed to a threat or being suspect."

Oliver stresses that his sexual orientation is not part of his job and he hopes that others will view him in his role as chaplain and staff officer.

"People think it's strange to have an openly gay chaplain and that can be exhausting," he said. "But it's hard for me to believe I'm not in the right place because of the calling I feel, the work I've done, and the training I've had. I appreciate the support and encouragement I've received all around."

Despite any flurry of attention he may receive, Oliver said he hopes that his coming out will help someone else.

"First and foremost, I want to do God's will for my life the best I can and the best way I know how," said Oliver. "That's something I would advise anyone to do. I've been blessed to serve God and country, and I want to do so as long as possible. It's important for Soldiers to be encouraged to be who they are, for the sake of their formations but ultimately themselves."

Monica K. Guthrie is a media relations officer in the Fires Center of Excellence and Fort Sill Public Affairs Office.

Every mil matters

One battalion's fight against error

By Lt. Col. Jim Collins and Capt. Joshua Herzog

Troubleshooting is a complicated task that requires an understanding of ballistics, firing tables and the automated systems. Due to the breadth of knowledge and experience required for proper troubleshooting, it remains a leader-centric task that many are reluctant to embrace. Training Circular 3-09.81 "Field Artillery Gunnery" states "unit leaders or investigating officers need to be able to evaluate firing data and supervise corrective action for inaccuracies."

While absolutely true, the degree to which leaders evaluate firing data can be generalized into the following categories:

1. **Insufficient troubleshooting.** The practice of theorizing the cause of the error then concluding the solution is beyond the control of the firing unit i.e., inconsistent propellant burns or incorrect metrological data.
2. **Elementary troubleshooting.** Isolating an error using logic but unable to support it with a mathematical solution i.e., muzzle velocity is causing the range error.
3. **Adequate troubleshooting.** Isolating errors using logic then validating the logic with mathematical computation(s).

Over the past 18 months, the leaders of 1st Battalion, 7th Field Artillery Regiment have emphasized troubleshooting and gradually impressed a culture of accuracy by analyzing every mission when a round impacts outside of three probable errors in range and/or deflection. "Check-firing" no longer has the context of negligence, but a context of professionalism.

First Battalion, 7th Field Artillery Regiment is currently deployed to Southwest Asia in support of Operation Spartan Shield and Operation Inherent Resolve. The current mission requires a field artillery battalion ready to suppress, neutralize or destroy the enemy in decisive action operations, while simultaneously operating autonomous platoons to assist joint and multinational partners in a complex operational environment. Mission-essential task training that culminated with a rotation at the National Training Center prepared us for the aforementioned mission but the latter is more complex. Not only did it require additional training, it required a renewed culture of exacting standards.

First, through training and education, we had to acknowledge that "good enough"

is no longer acceptable and instead we inculcated three principles:

1. The Precision Guided Kit (PGK) and Excalibur give the field artillery an unprecedented degree of precision. However, this does not replace the requirement for accurate high explosive/point detonating. We must resist the tendency to default to PGK/Excalibur because all other munitions are "inaccurate."
2. In the 1st Infantry Division, training and leader development are synonymous. While we train to deliver rounds on target, we must develop leaders that are capable of understanding the variables that cause inaccuracies, then isolate and perform trouble-shooting procedures.
3. Accuracy is not subjective – in most cases the tabular firing tables define error. For example, at 14,000 meters acceptable error for a M795 projectile with M232A1 Charge 4 is between 27 and 107 meters due to dispersion based on the percentage of rounds that will land within one to four probable errors in range. A round 108 meters off target is unacceptable. The following vignettes describe scenarios where we identified and solved inaccuracies, but more importantly junior leaders received a renewed sense of Redleg professionalism.

Target location error

First, to "simplify" troubleshooting, we attempted to minimize the number of nodal variables that contribute to inaccuracies: fire support, fire direction and cannon operations. We focused on the technical aspects of reducing target location error. Fire support equipment, when used to its full capabilities within the armored brigade combat team's MTOE (modified table of organization and equipment), minimizes target location error. Understanding system capabilities is critical to understanding the degree of accuracy that can be achieved, and in turn, reduce the compounded error. After a deliberate equipment reset and central-

Soldiers from 1st Battalion, 7th Field Artillery Regiment, fire an Excalibur round from a Paladin during a live-fire exercise. (Courtesy photo)



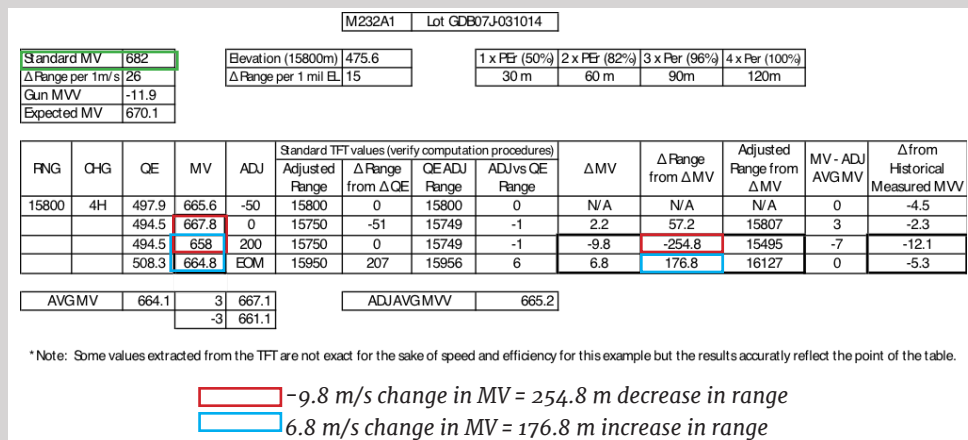


Figure 1. This figure shows the deviation in muzzle velocity. (Courtesy illustration)

ized fire support training program, all leaders and Soldiers were trained to maximize system capabilities, to include the loading of GPS communication security (COMSEC) keys into the Lightweight Laser Designator Rangefinder, loading precision imagery on the ruggedized handheld computer and standalone computer unit, target mensuration to refine target location, bore-sighting the Fire Support Sensor System and calibration of all target location devices.

The fire support tactical standard operations procedures were updated and operations on the observation post were refined to an exacting standard: observers self-locate using GPS with COMSEC, laser a target with a fully mission capable and calibrated device, refine that target location using Precision Strike Suite – Special Operations Forces (PSS-SOF) software, and obtain a

height above ellipsoid altitude and process the mission over the digital Fires network. In the end, TLE was greatly reduced, thus allowing troubleshooting to focus on fire direction and cannon operations.

Characteristics that effect interior ballistics

In October 2015, B Battery, 1-7th FA deployed in support of Operation Inherent Resolve. Over a period of four months, 2nd Platoon, B/1-7th FA fired over 1,500 rounds in an environment where accuracy is of the upmost importance. As the months progressed, the platoon observed increased dispersion along the gun-target line – an “anomaly” that was isolated to only one platoon. Unmanned aerial surveillance platforms allowed us to observe and record the spotting from every mission (in some cases

refine the impact grid using near-mensuration). This real-time feedback enabled troubleshooting.

We initiated troubleshooting associated with range errors. First, we compared the firing solution in the fire direction center as well as the command deflection/quadrant and actual deflection/quadrant in the Paladin Digital Fire Control System (PDFCS). We noticed an irregularity in the muzzle velocities on the PDFCS record of fire. The following chart outlines the data for one mission. The blue and red boxes highlight where the muzzle velocity increase or decrease directly affected the range. The standard muzzle velocity is highlighted in green for comparison.

The AFATDS was operating using the enhanced muzzle velocity (MV) mode, actively collecting and applying muzzle velocity data to the muzzle velocity variation (MVV) database. Therefore, range dispersion should have decreased with each mission fired. However, over 70 percent of the missions displayed erratic muzzle velocities that varied from 5–20 meters per second between rounds, resulting in errors in the range of 120–380 meters, increasingly outside of four probable errors in range.

The first step was to acknowledge this was not an unexplainable phenomenon. Our ability to correct the dispersion is not limited by science, but by our understanding. Gunnery can explain the dispersion. The battery and platoon leadership began to examine the 14 sub-categories of interi-



or ballistics that can account for non-standard velocities: velocity trends, ammunition lots, tolerances in new weapons, tube wear, non-uniform ramming, rotating bands, propellant and projectile temperatures, moisture content of the propellant, position of the propellant in the chamber, weight of the projectile, coppering, propellant residue, tube conditioning and two additional effects that include tube memory and tube jump.

In order to eliminate as many variables as possible we established a deliberate process to collect data:

1. Recorded muzzle MV readings from the PDFCS.
2. Video recorded crew drills.
3. Verified ammunition data including lots, square weight and temperature of propellant.

Through our analysis and logic, we considered then subsequently ruled out 13 variables of interior ballistics that account for non-standard velocities:

1. **Velocity trends.** The general increase of MV as additional rounds are expended does not explain positive and negative muzzle velocity fluctuations of this magnitude.
2. **Ammunition lots.** Only one lot of propellant was on-hand in the turret. All other lots were removed from the turret and stored in the ammunition holding area (AHA).
3. **Tolerance in new weapons.** Calibration of each howitzer accounted for all variances within each specific cannon tube. Additionally, the MVV caused by inconsistencies in tube manufacture remains constant throughout the life of the tube.
4. **Tube wear.** Tube wear results in a decrease in muzzle velocities, however does not contribute to inconsistent muzzle velocities.
5. **Non-uniform ramming.** Non-uniform ramming can result in increased dispersion along the gun-target line and therefore was identified as a potential factor. However, the hydraulic rammers in the M109A6 were fully mission capable and the replenisher gauge readings were within tolerance. Additionally, the video of the crew drills validated a consistent four-second ram.
6. **Rotating bands.** Bands being excessively worn and not imparting the proper spin on a projectile would result in dangerously erratic round performance.

7. **Propellant and projectile temperatures.** Ammunition was stored, handled and prepared correctly to ensure uniform propellant temperatures. Temperatures were updated each hour and there was never a deviation greater than three degrees between thermometers. In addition, according to Firing Table 155-AR-2, Table E for Charge 4H, M232A1, a 50-degree change in temperature is required for a 10 meter per second variance.

8. **Moisture content of propellant.** All propellant increments were inspected for abnormalities and moisture damage prior to uploading into the turret.

9. **Position of propellant in the chamber.** Video recording of crew drills validated propellant was positioned flush against the Swiss groove prior to closing the breech.

10. **Weight of the projectile.** Only four square projectiles were on-hand in the turret. All other projectiles were removed from the turret and stored in the AHA.

11. **Propellant residue.** Video recordings validated the number one cannoneer swabbed three times to the forcing cone and around the obturator spindle group until clean between each round. In addition, the tube was punched according to the technical manual after each mission or at a minimum each day and bore evacuators were cleaned weekly.

12. **Tube conditioning.** Tube temperature is correlated to a predictable range dispersion. Tube conditioning does not explain unpredictable range dispersion.

13. **Tube memory and tube jump.** The preponderance of missions were fired with charge 4H eliminating the likeness of tube memory. Additionally, the discrepancy was not limited to the first round of the mission.

Additionally, since we were obtaining random erratic muzzle velocities we were able to eliminate other factors that could result in range errors:

1. MET: Metrological data was verified in accordance with TC 3-09.81.
2. Looseness in the mechanics of the carriage: We surged a team of mechanics to the firing point to execute the annual service two months prior to the due date. No abnormalities were identified.
3. Limitations of setting values for deflection and quadrant: Although a Fire Control Alignment Test (FCAT) had not been done within six months, the off-

sets were input in accordance with the DA Form 2408-4.

After detailed analysis and an unscheduled borescope, coppering of the tube, the thin film of copper deposited in the tube when high charges are fired and high velocities, was identified as a possible explanation. The previous approximately 1,000 rounds were fired exclusively with 4H and 5H. Initially, coppering was not considered due to the daily tube maintenance which includes cleaning the tube with the basic issue brush. The borescope proved the bore evacuators were clean and that there were no signs of cracks or fractures, but did present initial signs of residue. Approximately one month later, an Ammunition Information Notice was published warning of residue build-up in tubes after expending a high volume of M232A1, charge 5. The message stated routine tube maintenance cannot extract or dissolve this residue. Firing a low charge of M231 is the only method to burn or "clean" the residue. After the publication of this message, we obtained authorization to execute fire missions at a reduced range with M231. Since then, the muzzle velocity variations are now within +/- 4 m/s, leading us to conclude that the firing of the lower charge effectively burned away the residue deposited in the cannon by repeatedly firing M232A1.

Through our efforts to analyze the error and account for every meter of inaccuracy outside of the probable error in range, we were able to improve accuracy, achieve higher rates of battle damage, and prove to young artilleryman the science of gunnery can explain every variable of ballistics.

Firing unit location

Also while firing in support of Operation Inherent Resolve, 1st Platoon, B/1 - 7th FA noted an abnormal range deviation. The platoon was meeting the five requirements for accurate fire, the rounds were within two probable errors in range but one M109A6 was out of sheaf due to a range error. The battery and platoon leadership began troubleshooting procedures. According to Appendix B "Troubleshooting" of TC 3-09.81, the factors that can affect range error are site, target/observer location, projectile square weight, propellant temperature, muzzle velocity variation, air temperature, air pressure, howitzer location, meteorological datum plane (MDP) altitude, wind direction, wind speed, quadrant elevation and charge.

In order to eliminate errors we again collected and analyzed data:

1. Recorded MV data from the AFATDS and PDFCS;
2. Ammunition data including lots, square weight and propellant temperature;
3. Documented the AFATDS firing solution and the actual and command deflection/quadrant from the PDFCS along with the firing data from the PDFCS "record of fire,"
4. Howitzer firing location and altitude.

Because the issue was isolated to one howitzer and not the entire platoon, we were immediately able to discount issues that would result in the error across the platoon.

1. All MET related issues: air temperature, air pressure, MDP altitude, wind direction and speed.
2. Target location and observer location error.

Additionally, after collecting and verifying data from the PDFCS and AFATDS we were able to eliminate other potential causes of error:

1. **Projectile square weight.** Only four square projectiles were on-hand in the turret. All others were removed to the AHA.
2. **Propellant temperature.** The deviation between thermometers was less than three degrees for the same propellant when tested with various thermometers. Additionally, propellant temperature was updated prior to each mission.
3. **Quadrant elevation.** All M109A6s were dry-fire verified. Command quadrant elevation matched actual quadrant elevation on the PDFCS record of fire for each Paladin and each mission.
4. **Charge.** Ammunition counts were conducted for each howitzer section after the missions in question to verify the correct charge was fired. In addition, the FDC calculated the mission for a higher and lower charge, discovering the magnitude of the error did not match.

Therefore, the error was isolated to site and/or howitzer location. Since the AFATDS calculates the site data based on the vertical interval, range and the complementary site factor, the only factors that could vary between howitzers is the vertical interval and range. First, we verified firing unit location for each M109A6 with a Defense Advanced GPS Receiver (DAGR). All howitzers were within the prescribed tolerances. Howev-

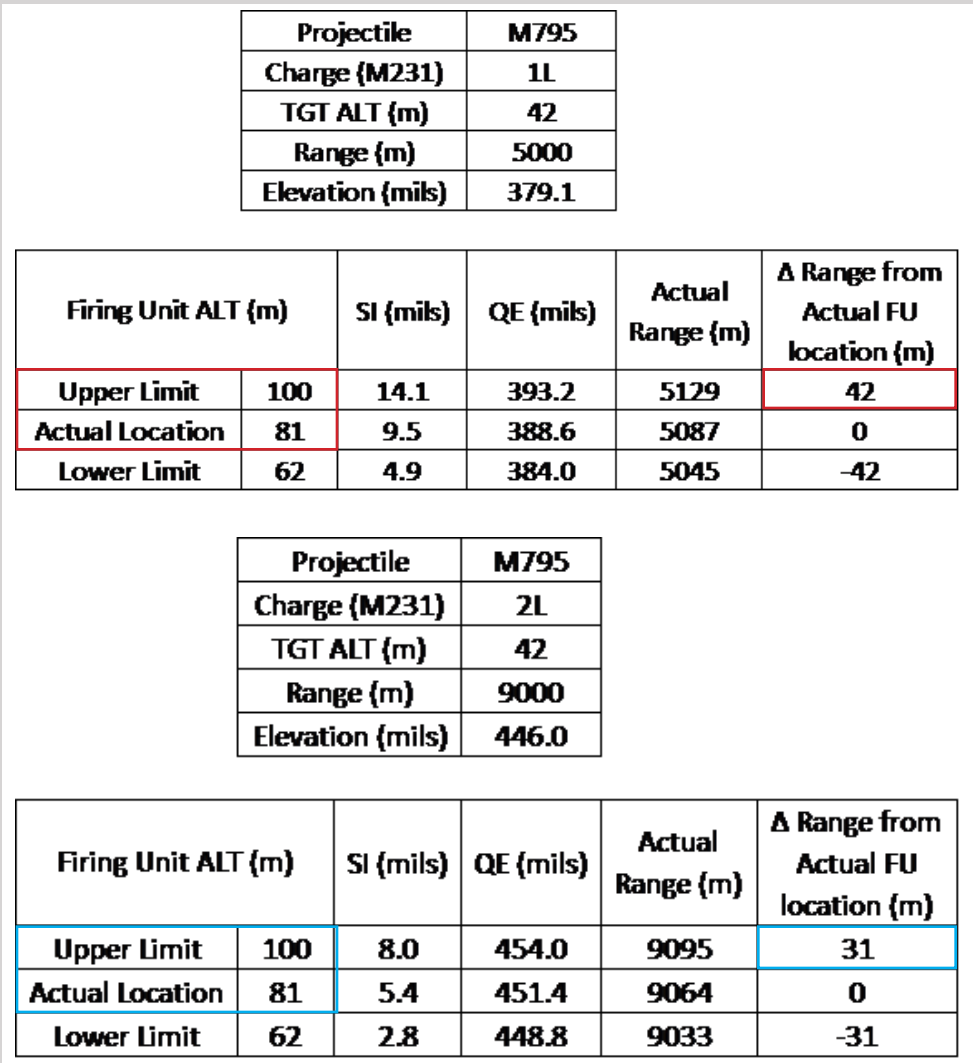


Figure 2. Calculations by the FDC with a difference of 19 meters in altitude from the howitzer produced an error of 42 meters at a range of 5,000 meters and 31 meters at a range of 9,000 meters. (Courtesy illustration)

er, although the howitzers were stationary, the FDO identified deviations of the howitzer location (reported using the digital piece statuses).

According to the M109A6 technical manual, "the PDFCS position has been observed to drift while the howitzer is stationary" and "these problems have been traced to errors in communications between the PDFCS and PDCU." It continues to state, "with the GPS receiver (DAGR) installed and the PDFCS operated in a GPS-aided mode, the problem will be bound to an acceptable level." In light of this known issue, all troubleshooting procedures outlined in TM 9-2350-314-10-2 were followed, but were unsuccessful in identifying a solution to the issue. Additionally, all M109A6s had black cryptographic keys loaded in order to be precision-guided munitions capable and no warning messages were observed regarding the GPS.

To verify the issue, we relied on the science of gunnery. Ten meters of error in the easting and northing equates to less than 14 meters of dispersion (regardless of range to target). The error associated with altitude is more pronounced – a 20 meter change in altitude contributes to error in the vertical interval and therefore site, which is a function of range. It was determined through calculations by the FDC (see tables below) that a difference of 19 meters in altitude from the howitzer produced an error of 42 meters at a range of 5,000 meters (M231 charge 1) and 31 meters at a range of 9,000 meters (M231 charge 2). The error decreases as the range to target increases.

Given this, if a howitzer reports its position at the upper limit within its tolerance (20 m) for altitude and an easting and northing that are both approximately 10 meters off from the actual location, the total error for M231 Charge 2 would be ap-

proximately 45 meters. Since we were trying to achieve the highest level of accuracy possible, this error, although within tolerance, can be minimized.

The leadership determined an immediate and a subsequent solution. First, three DAGRs operating in averaging mode established a firing unit location. The FDO, who was target mensuration-only qualified and trained on PSS-SOF, mensurated the location of the M109A6 based on the precision imagery available and real time video feed from a surveillance platform, then compared the results to the DAGR locations. Once verified through multiple means, this location was input into PDFCS. The battalion headquarters then deployed the battalion's organic survey assets into theater to achieve a greater order of survey. Once the corrections were made, the range error effecting the sheaf was eliminated.

A Paladin weapon system, from 1st Battalion, 7th Field Artillery Regiment, fires an Excalibur round during a live-fire exercise. (Courtesy photo)



Azimuth offsets

In January 2015, 1-7th FA replaced the M284 cannon tubes on 18 M109A6 Paladins. After the tubes were replaced a FCAT was conducted. Once complete, all DA Form 2408-4 and PDFCS offsets were updated accordingly. Approximately two weeks later, the battalion went to the field to seat the tubes. Multiple observers were employed to record the spottings. After the initial volleys and subsequent maintenance adjustments were complete, each platoon conducted three mass missions to verify sheaf. The observer team notified the battalion FDC that during one platoon iteration, one of the howitzers was out-of-sheaf and was consistently landing approximately 100 meters left of the target along the gun-target line. Troubleshooting procedures were initiated to discover the cause of the deflection error.

Again we collected the following data:

1. Howitzer locations.
2. Azimuth of lay.
3. Command deflection from the AFATDS and PDFCS, which was compared to the actual deflection recorded on the record of fire in the PDFCS for the missions fired.

Since the issue was isolated to one howitzer and not the platoon, we were able to discount issues that would result in the error across the battery.

1. All MET related issues: wind direction and speed.
2. Target location and observer location error.

Upon further investigation of PDFCS and AFATDS data, we eliminated numerous factors associated with a deflection error:

1. **Deflection.** All M109A6s were dry-fire verified. Command deflection matched actual deflection on the PDFCS record of fire for the Paladins.
2. **Azimuth of lay (AOL).** All M109A6s were confirmed to be laid on the proper azimuth of lay using an M2 compass as well as the tube-to-tube verification. Additionally, the AOL was verified to be correct in the AFATDS for each howitzer.

3. **Howitzer location.** All M109A6s locations were surveyed using the battalion's organic survey assets and the correct easting, northing and elevation was verified in the PDFCS and AFATDS.

Of course, logic is important for effective troubleshooting, specifically, to focus the data collection – what has changed since the last live fire? Since we had just completed tube replacement then subsequently FCAT on all the howitzers, all units were directed to verify PDFCS maintenance offsets to compare data in PDFCS and 2408-4. Upon verification of the offsets, it was identified that the azimuth offset was input incorrectly into the PDFCS. The chief of section entered 11.2 instead of 1.2 into the azimuth offset. The mathematical calculation confirmed that the discrepancy accounted for 108 meters of error which is well outside of four probable errors in deflection for the propellant type and charge.

Conclusion

These vignettes outline incidents that are specific to 1st Battalion, 7th Field Artillery in which senior non-commissioned officers and junior officers identified, isolated then subsequently resolved errors. Our efforts were not hindered by expertise, but initially hindered by the reluctance to acknowledge error. We have matured to an organization that once defined success as “round observed safe” to an organization that examines every mission outside of a predetermined probable error in range/deflection. We continue to further our efforts to create a culture of leader development and professionalism that tries to account for every mil and every meter of error.

Lt. Col. Jim Collins, former commander, 1st Battalion, 7th Field Artillery Regiment, 2nd Armored Brigade Combat Team, 1st Infantry Division.

Capt. Joshua Herzog, former commander, B Battery, 1st Battalion, 7th Field Artillery Regiment and previously, brigade fire support officer, 2nd Armored Brigade Combat Team, 1st Infantry Division.



In defense of Icarus

Positive leadership in the United States Army

By Maj. Jim Nemec

"Whether you think you can or think you can't, you're right."

- Henry Ford

The Flight of Icarus by Jacob Peter Gowdy.

In Greek mythology, Icarus received wings from his father to escape the island of Crete.² He warned Icarus not to fly too low or too high due to the perils of the ocean and sun.³ Icarus ignored his father's warning and in an attempt to reach the sun, flew too close, melted his wings and fatally crashed into the sea.⁴

While Icarus' story is a lesson in hubris⁵, his ambition is also noteworthy and is applicable to modern day.

Icarus possessed the strength of character to leave Crete and pursued a higher goal, attempting to reach the sun.⁶ Today, in an increasingly unstable world, and with diminishing resources, Army leaders must do more with less, facing security threats from the Islamic State of Iraq and the Levant (ISIL), climate change, a resurgent Russia and a defiant North Korea.⁷ Preparing for these current challenges is addressed in "The U.S. Army Operating Concept," which emphasizes "war will remain a contest of wills,"⁸ and "leader development in units ensures that Army forces thrive in chaotic environments."⁹

To meet these challenges, the Army needs leaders to recognize opportunity, benefit

from experience and lead with passion and enthusiasm. Army leaders should possess positive character strengths similar to that of Icarus: vitality, hope, gratitude and social intelligence.¹⁰

For the purposes of this essay, positive leadership is operationalized to refer to a leader or leaders who possess these four positive character strengths. Positive Army leaders build trust in organizations and are likely to continue service after the military, maintaining strong community ties and assisting fellow veterans.¹¹ This essay is a recommendation for the Army to cultivate positive leadership through existing leader and character development initiatives.

Army Doctrinal Publication 6-22 "Army Leadership" defines leadership as "influencing people by providing purpose, direction and motivation to accomplish the mission and improve the organization."¹² Leadership unifies and intensifies the effectiveness of the other elements of combat power.¹³ Quality leadership transcends every facet of an organization maximizing or negating potential. According to the New York Times Best Seller "How Full is Your Bucket?" studies show that

organizational leaders demonstrating consistent positive emotions in the workplace lead productive workgroups with measurable results.¹⁴ When leaders invest in their workers' positive emotions, workers are happier and feel secure, which translates to an increase in productivity.¹⁵ The importance of positive leadership in the workplace is easily translatable to Army leadership through character development.

Character development in the Army is an important issue often placed on the backburner for the sake of competence.¹⁶ Former chairman of the Joint Chiefs of Staff, Gen. Martin Dempsey stated, "The military must pay as much attention to character as it does to competence."¹⁷ Army leaders without character lose the trust and confidence of those they lead as well as the trust of the American people.¹⁸

The Army Ethic White Paper states the "foundation of our profession is centered on trust ... it will take every measure of competence and commitment to forge ahead and above all it will take character."¹⁹

Charles D. Allen in "Ethics and Army Leadership: Climate

Matters" states that "They (the Army) should redress the unbalanced focus on competence that is contributing to a weakening of the trust the Army needs from its members and the society it serves."²⁰

According to Col. Brian M. Michelson, in "Character Development of U.S. Leaders: The Laissez-Faire Approach," "the Army is assuming excessive operational and institutional risk if it does not meet the challenge of developing the personal character of its leaders."²¹ The Army has identified this issue, acknowledging: The Army lacks the capability to identify attributes of character and to assess the success of efforts to develop character so that Army professionals consistently demonstrate their commitment and resilience to live by and uphold the Army Ethic.²²

To address this issue, the Army appointed a Character Development Project Team, part of the Center for Army Profession and Ethic, charged with creating and publishing the Army Concept for Character Development, due in June of 2017.²³ This endeavor is an important step for the Army to identify, define and develop desirable character strengths in its leaders.

"The Army lacks the capability to **identify** attributes of character and to assess the success of efforts to develop character so that Army professionals consistently demonstrate their commitment and resilience to live by and uphold the Army Ethic."

-Department of the Army, Character Development Project



The Lament for Icarus by H.J. Draper.

Positive character strengths can be developed in individuals, just as behavior.²⁴ The founder of social psychology, Kurt Lewin, posited the equation $B = f(P, E)$ (Behavior is a function of personality and the environment).²⁵ While an individual's personality remains relatively constant, an individual's behavior changes based on their environment.²⁶ A person's stable behavior in different environments over time constitutes character.²⁷ The Army delineates intrinsic character and operational character.²⁸

According to Army Doctrine Reference Publication 1, The Army Profession "intrinsically, character is one's true nature including identity, sense of purpose, values, virtues, morals and conscience."²⁹ Operationally, the Army defines character as "an Army professional's dedication and adherence to the Army ethic including the Army Values, as consistently and faithfully demonstrated in decisions and actions."³⁰ The purpose of character development therefore, is to inculcate the moral principles of the Army ethic and align personal intrinsic character with what the Army expects of its professionals.

Twenty-four character strengths constitute good character according to positive psychologists Martin E. P. Seligman and Christopher Peterson.³¹ These 24 strengths align with six virtues most agreed upon by moral philosophers and religious thinkers to evaluate behavior and character.³² These virtues are: wisdom and knowledge, courage, humanity, justice, temperance, and transcendence.³³ Of the 24 character strengths, vitality, hope, gratitude, and social intelligence are most relevant to Army leadership and have the ability to transform an individual's approach to leading.

According to Aristotle, good character manifested in habit-



The Fall of Icarus, Musée Antoine Vivenel.

ual action is virtuous.³⁴ Modern philosophers James and Stuart Rachels expand Aristotle's definition as "a trait of character, manifested in habitual action, which is good for anyone to have."³⁵ Indeed, vitality, hope, gratitude, and social intelligence are traits of character manifested in habitual action, and are good for Army leaders and the organizations they lead. Each of the four character strengths improve leadership in the Army by improving Army leader character.

Leaders with the character strength of vitality approach life with excitement, enthusiasm, and energy, not doing things half-heartedly.³⁶ Vitality is contagious. Feelings, moods and attitudes can spread from one member of a group to others due to a psychological phenomenon called the emotional contagion.³⁷ This behavior mimicry is why followers tend to take on the mood and attitude of their leader.³⁸ Positive leaders with

vitality accomplish goals, tasks and missions, because they energize subordinates and create prolific organizations.³⁹

The character strength of hope includes optimism and is future thinking or future oriented.⁴⁰ Leaders with hope believe a good future is something they can control.⁴¹ A leader's belief in his or her ability to control the outcome of a situation is important to Army operations. Mission command requires Army leaders to possess confidence in their abilities to understand intent.⁴² Positive leaders must remain grounded, however. Blind optimism can be counterproductive and leaders must maintain the proper ratio of positive to negative.⁴³ Research suggests organizations with a greater than three to one ratio of positive to negative interactions between leaders and subordinates are more productive, have enhanced job satisfaction among employees, and

have improved individual performance.⁴⁴

Gratitude is being aware of the good things that happen in one's life and taking the time to reflect and be thankful.⁴⁵ Positive Army leaders are grateful for the privilege to serve and lead America's sons and daughters, having internalized the Army ethic through their honorable service.⁴⁶ Gratitude communicated between leaders and subordinates is mutually beneficial and fosters trust between military professionals.⁴⁷

Social intelligence is the ability to understand the feelings and motives of others and oneself.⁴⁸ Army leaders are expected to understand a myriad of other people including subordinates, superiors, joint and interagency, host nation partners and adversaries. An Army leader with social intelligence builds trust in an organization.⁴⁹ According to Dr. Don Snider, professor of Political



The Sun, or the Fall of Icarus, Merry-Joseph Blondel

Science, Emeritus, West Point and professor, Strategic Studies Institute, U.S. Army War College, trust is the Army's currency.⁵⁰ Research involving Army officers in combat identified social intelligence as essential to leadership.⁵¹ Officers reported the importance of understanding not only host country nationals but also "understanding their Soldiers, knowing when they needed a break and recognizing when a monotonous mission set generated the onset of complacency."⁵² Social intelligence is important to the Army because it helps provide leaders with situational understanding and improves shared understanding with subordinates.⁵³

To develop positive character strengths in leaders, the Army should address positive leadership in the Concept for Character Development. Positive leadership provides a baseline to form good character by codifying positive character strengths. Character

is often nebulous given the changing attitudes, increasing moral diversity and prevalence of cultural relativism in American society.⁵⁴ Positive leadership is universal and instructive, invaluable in any situation and is applicable to both formal and informal leadership.⁵⁵

To cultivate positive leadership, Army leaders must invest more in subordinates, signaling a cultural shift from the current norm. According to the 2014 Center for Army Leadership Annual Survey, investment in leader development is an issue for the Army.⁵⁶ Character development will also be an issue unless this is resolved. Only half of Army leaders reported receiving performance counseling on a frequent basis.⁵⁷ Only 41 percent reported having an immediate supervisor frequently discuss work performance.⁵⁸ Over 50 percent report rare or infrequent performance discussions with supervisors.⁵⁹ The report concludes

that leaders who are proactive in seeking feedback and development improve at a rate faster than those who wait to be developed.⁶⁰

Faced with this reality, the Army must reinvigorate performance counseling, coaching, teaching and mentoring to ensure quality and equity across the force. By investing more in subordinates, the Army would ensure more junior leaders develop at a rate commensurate with one another. No longer can leaders afford to check-the-block or outright avoid developing subordinates. Character development should coincide with leader development and address positive character strengths, creating meaning and understanding for the leader.⁶¹ Whether formal or informal, quality feedback leads to an understanding of where the leader needs to improve and provides information regarding which character strengths he or she possesses.⁶²

There are long-term benefits associated with positive leadership beyond the Army. Positive psychology is a relatively new and expanding field of study focusing on what is going right with a person as opposed to what is wrong.⁶³ Positive psychology builds on people's strengths and values, focuses on their happiness, and brings meaning to their lives.⁶⁴ The tenets of positivity and positive psychology are already in use by the Army.⁶⁵ The Comprehensive Soldier Fitness program is an all-encompassing, four-pillar approach to improving Soldier life based on positive psychology theory.⁶⁶

Martin E. P. Seligman, the original author of the Comprehensive Soldier Fitness program, describes three typical responses to high adversity experiences such as combat.⁶⁷ The first response is post-traumatic stress, the second response is a return to normal and the third response is post-traumatic growth.⁶⁸ With post-traumatic growth, people improve and grow as a result of experiencing high adversity.⁶⁹ Seligman postulates that through developmental programs such as Comprehensive Soldier Fitness, more Soldiers would grow from trauma, becoming keenly aware of their character strengths and deriving meaning from adverse experiences.⁷⁰

Positive leaders, such as former Army Maj. Mike Erwin, do more with less and continue to serve after the military. Erwin founded and leads two non-profits, Team Red, White and Blue, dedicated to enriching veterans' lives⁷¹, and the Positivity Project, dedicated to teaching children the value of character.⁷² Both organizations are rooted in positivity and positive psychology. Team

Red, White and Blue has over 100,000 members across the country and is credited with turning thousands of veterans' lives around through positive social and physical interaction.⁷³ Erwin's non-profit work is impressive and is reminiscent of World War II veterans returning from Europe and the Pacific who built American prominence.

In closing, positive leadership may defy current societal attitudes. Contemporary trends in American thinking seem much more negative and base. The Army however,

has always led social change, demonstrating cultural adroitness when desegregating following World War II, repealing Don't Ask, Don't Tell, and recently opening combat occupational specialties to women.

Challenging negative attitudes and promoting positive leadership in existing leader and character development improves readiness by improving the efficacy of the Army. Current Army Chief of Staff, Gen. Mark Milley reiterated the importance of leadership and readiness by stating "Army

leaders have a sacred responsibility ... our nation's most precious resource, our youth, has been given to us."

Speaking to an auditorium of Army majors, Milley continued "The American people expect you to win." The mission to leave Crete is ours. ... We cannot afford to fly low or be averse to flying high. ... The future of the Army and the nation's security is at stake.

Maj. James Nemec is the 101st Division Artillery effects officer, stationed at Fort Campbell, Ky.

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In the next issue of Fires

November–December 2016, **The Army's Branches: The Evolving Duo**. Honoring tradition creates a tremendous sense of pride in the ranks. This issue will converge on the commonality of the two branches and look at where the Air Defense and Field Artillery branches are rooted; to their emerging roles in counter-fire, counter-UAS and future-Fires combat scenarios as the pillars of the Fires warfighting function.

Submissions are due by Oct. 1, 2016. Send your submissions to usarmy.sill.fcoe.mbx.fires-bulletin-mailbox@mail.mil or call (580)442-5121 for more information.

Col. Doug White, with Fire Center of Excellence, Training and Doctrine Command, shows Gen. David G. Perkins, Training and Doctrine Command commanding general, and his party, the training his Soldiers are conducting during Network Integration Evaluation 16.1 and Army Warfighting Assessment, Sept. 29, 2015, at Fort Bliss, Texas. NIE 16.1 will focus on future force development, training readiness and multinational interoperability with participants from 13 nations, over 9,000 service members and 3,000 civilians. (Sgt. Maricris C. McLane/24th Press Camp Headquarters)

