

# OPTIMIZING ARTILLERY FIRES AT THE BRIGADE LEVEL

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MASTER OF MILITARY ART AND SCIENCE  
General Studies

by

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

## ABSTRACT

OPTIMIZING ARTILLERY FIRES AT THE BRIGADE LEVEL, by MAJ James J. Langdeaux, 85 pages.

Throughout history, artillery has helped shape the battlefield by allowing maneuver to close with and destroy the enemy. The Field Artillery branch has executed non-traditional in-lieu of missions during Operation Iraqi Freedom and Operation Enduring Freedom that have eroded the experience of the artillerymen in executing their pivotal role in the combined arms fight with a regionally aligned force. This thesis examines current doctrine, journals, scholarly articles, and trends from training to define and quantify the ability to: employ joint multi-domain fires, examine the fire support planning and execution tools and to provide insight to the future force (2025 and beyond) to ensure that fires and other warfighting functions remain integrated and synchronized to enable the Brigade Combat Team (BCT). Through the construct of Doctrine, Organizational, Training, Material, Leadership and Education, Personnel, and Facilities (DOTMILPF), recommendations to enhance the fires, movement and maneuver warfighting functions to address the complexities of tomorrow are identified to allow a rapid execution of fires in support of maneuver. Recommendations will also include changes in training to ensure leaders at all levels understand how effective fires implemented at the right place and time will allow BCTs the ability to maintain their position of advantage on the battlefield in a decisive action environment.

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## ACRONYMS

|          |                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------|
| ADP      | Army Doctrine Publication                                                                       |
| ADRP     | Army Doctrine Reference Publication                                                             |
| AR       | Army Regulation                                                                                 |
| ARFORGEN | Army Force Generation                                                                           |
| BART     | Battalion Artillery Readiness Test                                                              |
| BCT      | Brigade Combat Team                                                                             |
| CALFEX   | Combined Arms Live Fire Exercise                                                                |
| CALL     | Center for Army Lessons Learned                                                                 |
| CTC      | Combat Training Center                                                                          |
| COIN     | Counterinsurgency                                                                               |
| DART     | Division Artillery Readiness Text                                                               |
| DIVARTY  | Division Artillery                                                                              |
| DOTMLPF  | Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities |
| DS       | Direct Support                                                                                  |
| FORSCOM  | Forces Command                                                                                  |
| FM       | Field Manual                                                                                    |
| FSCoord  | Fire Support Coordinator                                                                        |
| FSO      | Fire Support Officer                                                                            |
| MDMP     | Military Decision Making Process                                                                |
| METL     | Mission Essential Task List                                                                     |
| MOS      | Military Occupational Specialty                                                                 |
| OEF      | Operation Enduring Freedom                                                                      |

|     |                              |
|-----|------------------------------|
| OIF | Operation Iraqi Freedom      |
| SOP | Standing Operating Procedure |
| ULO | Unified Land Operations      |

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## CHAPTER 1

### INTRODUCTION

For over 230 years, the artillery force has supported Army ground troops during the struggles to preserve and expand the fledgling nation and then during the wars abroad to provide lasting security for both the country and the larger international community. Organized initially into companies supporting infantry battalions and brigades, artillerymen—the Army’s Red legs—eventually manned battalions, regiments, groups, and brigades to support the growing number of combat divisions, corps, and armies with the battlefield fires necessary to ensure tactical victory.

—Jeffrey J. Clarke, quoted in Janice McKenney,  
*The Organization History of Field Artillery*

The military operations conducted in Iraq and Afghanistan forced military units to conduct counterinsurgency (COIN) operations degrading their decisive action skill sets. The long repeated deployments of conducting in-lieu of missions extremely degraded field artillery skills in the Brigade Combat Team (BCT) level. The downsizing of the military force and its senior leaders following Iraq and Afghanistan became another factor that would reduce the experience levels within the artillery ranks that affected both officer and noncommissioned officer corps. In order to balanced mission and garrison requirements, artillery units attempted to keep up with emerging doctrine and technological modularity. The Field Artillery Branch continued to remain focused on increasing lethality and accuracy while supporting the maneuver commander.

The Fires Center of Excellence Commandant, COL Stephen Maranian stated, “The Field Artillery’s Vision is to be the world’s premier Field Artillery force; modernized, organized, trained, and ready to integrate and employ Army, Joint, and Multinational Fires, across multiple domains, enabling through victory.”<sup>1</sup> To accomplish COL Maranian’s vision through significant budget constraints, artillery units transitioned

from COIN to decisive action. In order to modernize, organize, train, and remain ready during this transition, the fire support at the BCT level struggled to remain integrated to meet the demands of a decisive action environment:

As the United States and its allies in Europe watch NATO's eastern flank with increasing concern over Russian aggression, the U.S. Army's artillery capabilities have rightfully received more scrutiny and public attention. Artillery might very well be the decisive factor in how a war with Russia would play out. Over the summer in The Washington Post, one of us described how the supremacy of U.S. Army warfighting capabilities have been eroded by the steady advance of Russian warfighting capabilities in recent years. The Russians have made formidable improvements to their ground-based artillery systems in terms of range and lethal effects. Many of these Russian artillery upgrades are in flagrant violation of their international treaty obligations under the Intermediate-range Nuclear Forces (INF) Treaty. Meanwhile, the United States is unilaterally implementing highly restrictive policies that essentially eliminate the U.S. military's ability to destroy enemy armor formations. These self-imposed restrictions, together with a 1/3 general neglect of improvement to artillery range and destructive power, leaves the U.S. military vulnerable in a ground fight with a capable peer or near-peer adversary, including Russia or China.<sup>2</sup>

### Purpose

The purpose of this thesis is to identify the capability gaps under the model of Doctrine, Organizational, Training, Material, Leadership and Education, Personnel, and Facilities (DOTMLPF). Optimization of fires is the seamless integration, synchronization, and training of artillery units from the sensor to shooter allowing them to provide accurate and timely fires at the decisive point on the battlefield. Using the model of DOTMLPF focusing on the training observations, the point of this thesis is to identify and describe the capability gaps to determine how to reverse the negative observations found in fire support at the BCT level.

### Problem Statement

After two decades of COIN operations executing non-traditional field artillery missions, fire supporters in BCTs are lacking the experience, leadership, and training to integrate and synchronize fires to enable maneuver. As a result, the gaps in experience, leadership, and training reflected a downward trend in fire support skills necessary to support maneuver.

### Significance of the Problem

While the United States conducted operations in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), other countries evaluated the capabilities of the U.S. military and made necessary doctrine and materiel changes to their military. Russia created advancements to their cyber, artillery, and maneuver forces to ensure that they could conduct synchronized and integrated deep attacks. Russia's goal in this endeavor is to offset U.S. advantages in air superiority and double-down on its traditional advantages in artillery and rocket mass, range, and destructive power.<sup>3</sup> The U.S. military had to leverage experiences and lessons learned during OIF and OEF as they transitioned into a decisive action mindset by getting back to the fundamentals of Military Occupation Specialties (MOSs). The artillery skills during OIF and OEF atrophied from the non-traditional missions. Fire supporters were faced with the challenge of training on fundamentals in Unified Land Operations (ULO) while executing decisive action. During this transition from COIN to ULO, the Artillery Branch continued to improve innovations in doctrine and technology that would further the gaps in experience, leadership, and training. As the Army continued to move towards the Force 2020 concept, the integration of a BCT's capabilities continues to increase, as they were required to do more with less

to achieve the speed and tempo required by commanders.<sup>4</sup> The ability to synchronize and integrate warfighting functions becomes difficult for BCT commanders as they now face experience, leadership, and training gaps. The result from the non-traditional mission sets continue to strain the core competencies of the leaders and soldiers as observed from CTCs.<sup>5</sup> It will require years of operational experience to fill the gaps of the eroded technical and tactical skill sets. The challenge of getting the core competency back in the artillery warfighting function will require training and time to meet the demands of the decisive action environment. The challenge of fixing this problem cannot be left solely to the BCT commanders. Artillery promotions of leaders while conducting these non-traditional mission sets only compounds the problem from the junior leadership level to the highest artillery position within a BCT, the BCT Fire Support Coordinator (FSCOORD).

### Research Questions

The primary research question of this thesis is: under the model of DOTMLPF, how does the fires force optimize fires at the brigade level? To answer this question, it is important to find answers to two supplementary questions: (1) who is responsible for the training to meet the demands placed upon BCTs; and (2) how does maintaining balance in garrison with the competing demands ensure that artillery fires are properly integrated allowing maneuver the ability to gain a position of advantage?

### Assumptions

As the BCTs continue to resolve the experience, training, and leadership gaps in the Force 2020 concept of optimizing individual and team performance there will be

enough residual experience left in the formations to reach levels of proficiency as required by the Forces Command (FORSCOM) commander.<sup>6</sup> BCT commanders need to establish training goals that meet the critical challenges of ensuring they meet the fundamentals. The non-traditional mission sets that the Artillery Branch executed during OIF and OEF have eroded the experience from artillery forces through identified skill deficiencies observed at Combat Training Centers (CTCs) operating in a decisive action training environment. It is imperative that leaders understand that doctrine is only a guide and that the force as a whole needs to ensure that sharing the lessons learned will allow a rapid exchange of ideas and growth to develop adaptable and agile leaders in the future.

#### Definition of Terms

Brigade Combat Team: BCTs organize to conduct decisive action, which is the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks.<sup>7</sup> The BCT is the Army's primary combined arms, close combat force. BCTs often operate as part of a division or joint task force.<sup>8</sup>

Combatant Commander: A commander of one of the unified or specified combatant commands established by the president.<sup>9</sup>

Combined Arms: The synchronized and simultaneous application of all elements of combat power that together achieve an effect greater than using each element separately or sequentially.<sup>10</sup>

Commander's Intent: A clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the

commander's desired results without further orders, even when the operation does not unfold as planned.<sup>11</sup>

Counterinsurgency: Comprehensive civilian and military efforts designed to simultaneously defeat and contain insurgency and address its root causes.<sup>12</sup>

Decisive Action: The continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities' tasks.<sup>13</sup>

Fire Support: The fires that directly support land, maritime, amphibious, and special operations forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives.<sup>14</sup>

Fire Support Coordination Measure: A measure employed by commanders to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces.<sup>15</sup>

Fire Support Coordinator: The BCT's organic field artillery battalion commander; if a fires brigade is designated as the division force field artillery headquarters, the fires brigade commander is the division's fire support coordinator (FSCOORD) and is assisted by the chief of fires who then serves as the deputy FSCOORD during the period the force field artillery headquarters is in effect.<sup>16</sup>

Fires War Fighting Function: The 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.<sup>17</sup>

Full Spectrum Operations: The Army's core idea about how to conduct operations on land—its operational concept. Full-spectrum operations entail the application of

combat power through simultaneous and continuous combinations of four elements: offense, defense, stability, and civil support.<sup>18</sup>

Leadership: The process of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization.<sup>19</sup>

Maneuver: Employment of forces in the operational area through movement in combination with fires to achieve a position of advantage in respect to the enemy.<sup>20</sup>

Military Decision Making Process: An iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order.<sup>21</sup>

Operational Environment: A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander.<sup>22</sup>

Optimization: An act, process, or methodology of making something (as a design, system, or decision) as fully perfect, functional, or effective as possible; specifically.<sup>23</sup>

Unified Land Operations: How the Army seizes, retains, and exploits the initiative to gain and maintain a position of relative advantage in sustained land operations through simultaneous offensive, defensive, and stability operations in order to prevent or deter conflict, prevail in war, and create the conditions for favorable conflict resolution.<sup>24</sup>

Unity of Effort: The coordination and cooperation toward common objectives, even if the participants are not necessarily part of the same command or organization—the product of successful unified action.<sup>25</sup>

Warfighting Function: A group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives.<sup>26</sup>

### Limitations

This thesis only covers the implications that affect the Artillery Branch's ability to enable maneuver through the training aspect covered under DOTMLPF. All other Army service branches are only used as terms of reference to achieve the overall understanding as it applies to the thesis topic, other Army and sister service branches are not thoroughly analyzed, and no recommendations are included for other Army or sister service branches. The joint environment is covered only as an illustration to the complexity that the fires force has in supporting BCT maneuver forces. Based upon the research methodology chosen, the research conducted through CTC lessons learned and other scholarly articles is used to ensure a thorough understanding of the research topic. The type of research analysis used in this thesis will only give recommended solutions to the research topic and will serve as a guide for future reference and illustration to the problems that the Artillery Branch will have in integrating and delivering of fires at the BCT level. This thesis will only address active duty field artillery units, National Guard artillery units are not referenced throughout this thesis, and no recommendations are made for the current National Guard artillery units.

### Scope and Delimitations

The scope of this paper will cover DOTMLPF (only training, leadership, and education) Force 2020 analysis as it pertains to training at the BCT level to provide the

necessary fire support. The intent is to show the linkages to the aforementioned scope to meet the Fires Center of Excellence commandant's vision for the field artillery.

### Summary

The Artillery Branch's ability to provide fire support at the BCT level continues to create conversation amongst senior leaders within the Army. The decisive action environment creates new challenges for commanders and their subordinates in the Artillery Branch. Fires integration and synchronization continues to challenge leaders at all levels through the shared understanding needed to deliver fires in support of maneuver. To achieve effects while maintaining the ability to mass indirect fire systems, mortar and artillery will continually challenge the BCTs until pre-OIF and OEF experience levels are attained.

The art and science of employing artillery support by allowing maneuver the freedom of movement has challenged artillery leaders and their soldiers to this day. Training will have to remain complex while executing decisive action, in order for the Artillery Branch to remain competitive and reach the readiness levels established by senior Army leaders. The challenge for leaders and soldiers will understand these constraints to benefit from the technological and doctrinal changes.

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<sup>1</sup> COL Stephen J. Maranian, "Mission Command and the Field Artillery Vision are Designed to Keep the Force on the Course," *From the Commandant's Desk*, no. 56 (September 2016): 4, accessed 14 November 2016, <http://sill-www.army.mil/USAFAS/redleg/doc/2016/Sept%20Oct%202016%20from%20the%20FA%20CMDT.pdf>.

<sup>2</sup> Michael Jacobson and Robert H. Scales, "The United States Needs to get Serious about Artillery Again," *War on the Rocks*, 6 October 2016, accessed date, <http://warontherocks.com/2016/10/the-united-states-needs-to-get-serious-about-artillery-again>.

<sup>3</sup> Ibid., 2.

<sup>4</sup> U.S. Army Training and Doctrine Command, *Force 2025 and Beyond, Unified Land Operations, Win in a Complex World* (Ft. Eustis, VA: U.S. Army Training and Doctrine Command, October 2014), accessed 10 May 2017, [http://www.arcic.army.mil/app\\_Documents/tradoc\\_ausa\\_force2025andbeyond-unifiedlandoperations-winina-complexworld\\_07oct2014.pdf](http://www.arcic.army.mil/app_Documents/tradoc_ausa_force2025andbeyond-unifiedlandoperations-winina-complexworld_07oct2014.pdf), 2-3.

<sup>5</sup> CW5 John A. Robinson, U.S. Army Forces Command Strategy Team, Headquarters, U.S. Army Forces Command, Ft. Bragg, NC, telephone conversation with author, 5 December 2016.

<sup>6</sup> Commanding General, U.S. Army Forces Command, Memorandum for Commanders, Major Subordinate Commands/Units Reporting Directly to FORSCOM, Army National Guard Bureau, Office, Chief Army Reserve, and Army Service Component Commands, Subject: FORSCOM Command Training Guidance (CTG) - Fiscal Year (FY) 2018, Department of the Army, Headquarters, U.S. Forces Command, Ft. Bragg, NC, 16 June 2016, 2. Hereafter referred to as CG, FORSCOM, CTG – FY 2017.

<sup>7</sup> Headquarters, Department of the Army, Field Manual 3-96, *Brigade Combat Team* (Washington, DC: Government Printing Office, October 2015), 1-1.

<sup>8</sup> Ibid.

<sup>9</sup> Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: Government Printing Office, January 2017), GL-7.

<sup>10</sup> Headquarters, Department of the Army (HQDA), Army Doctrine Reference Publication 3-0 (ADRP), *Unified Land Operations* (Washington, DC: Government Printing Office, May 2012), Glossary 2.

<sup>11</sup> JCS, JP 3-0, GL-7.

<sup>12</sup> Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-24, *Counterinsurgency* (Washington, DC: Government Printing Office, November 2013), GL-5.

<sup>13</sup> HQDA, ADRP 3-0, Glossary-3.

<sup>14</sup> Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-09, *Joint Fire Support* (Washington, DC: Government Printing Office, December 2014), GL-7.

<sup>15</sup> JCS, JP 3-0, GL-9.

<sup>16</sup> Headquarters, Department of the Army, Army Doctrine Reference Publication 3-09, *Fires* (Washington, DC: Government Printing Office, August 2012), Glossary-3.

- <sup>17</sup> HQDA, ADRP 3-0, Glossary-4.
- <sup>18</sup> Department of the Army, “Information Papers: Full-Spectrum Operations in Army Capstone Doctrine,” 2008 Army Posture Statement, U.S. Army, accessed 14 April 2017, [https://www.army.mil/aps/08/information\\_papers/transform/Full\\_Spectrum\\_Operations.html](https://www.army.mil/aps/08/information_papers/transform/Full_Spectrum_Operations.html), 1.
- <sup>19</sup> Headquarters, Department of the Army (HQDA), Army Doctrine Publication (ADP) 6-22, *Army Leadership* (Washington, DC: Government Printing Office, August 2012), Glossary-1.
- <sup>20</sup> JCS, JP 3-0, GL-12.
- <sup>21</sup> Headquarters, Department of the Army, Army Doctrine Publication 5-0, *The Operations Process* (Washington, DC: Government Printing Office, May 2012), Glossary-2.
- <sup>22</sup> JCS, JP 3-0, GL-13.
- <sup>23</sup> Merriam-Webster, “Optimization,” accessed 11 April 2017, <https://www.merriam-webster.com/dictionary/optimization>.
- <sup>24</sup> Headquarters, Department of the Army, Army Doctrine Publication 3-0, *Operations* (Washington, DC: Government Printing Office, November 2016), Glossary-5.
- <sup>25</sup> HQDA, ADRP 3-0, Glossary-5.
- <sup>26</sup> *Ibid.*, Glossary-9.

## CHAPTER 2

### LITERATURE REVIEW

The BCT's ability to integrate warfighting functions to achieve effects on the enemy in a complex environment will be challenging. Force 2020 seeks to optimize individual and team performance through mission command while gaps continue to become a trend in artillery fundamentals supporting maneuver. The Artillery Branch's conduct of non-traditional mission sets for the past two decades strained the core competencies of the leaders and soldiers allowing fundamentals to erode further. The gaps in training, leadership, and experience were often observed in other Army field branches but not as notably as artillery. A widely circulated white paper authored by three wartime ex-maneuver brigade commanders, entitled "The King and I: The Impending Crisis in Field Artillery's Ability to Provide Fire Support to Maneuver Commanders" states:

No branch of the Army has suffered a greater identity crisis than Field Artillery, as a result of transformation, COIN-centric operations and nonstandard manpower demands of OIF/OEF. The once-mighty 'King of Battle' has been described by one of its own officers as a 'dead branch walking.' Now the Army is beginning to see real consequences in our ability to integrate fires with maneuver—an important capability for both COIN and High Intensity Operations (HIC). The Field Artillery is in an era of persistent conflict. In fact, one could argue that speed and accuracy counts for as much, if not more, in COIN as in HIC. We believe that it's urgent that we take another look at the structure of this important combat arm.<sup>1</sup>

#### Fires Integration DOTMLPF Analysis for the Force 2020

The comments from this white paper were recognized by senior leaders in the field artillery and senior Army senior leaders. The Army uses the Army Force Generation process (ARFORGEN) to ensure that units are manned, equipped, and ready for future

operations.<sup>2</sup> The DOTMLPF model determines capabilities and requirements for assessing organizations in order to determine changes needed to meet the demands placed upon units based on their mission set. The structured progression of increased readiness in ARFORGEN is supported by the focused, progressive, and gated collective training strategy driven by the unit's assigned mission, mission essential task list (METL), deployment timeline, and available resources.<sup>3</sup>

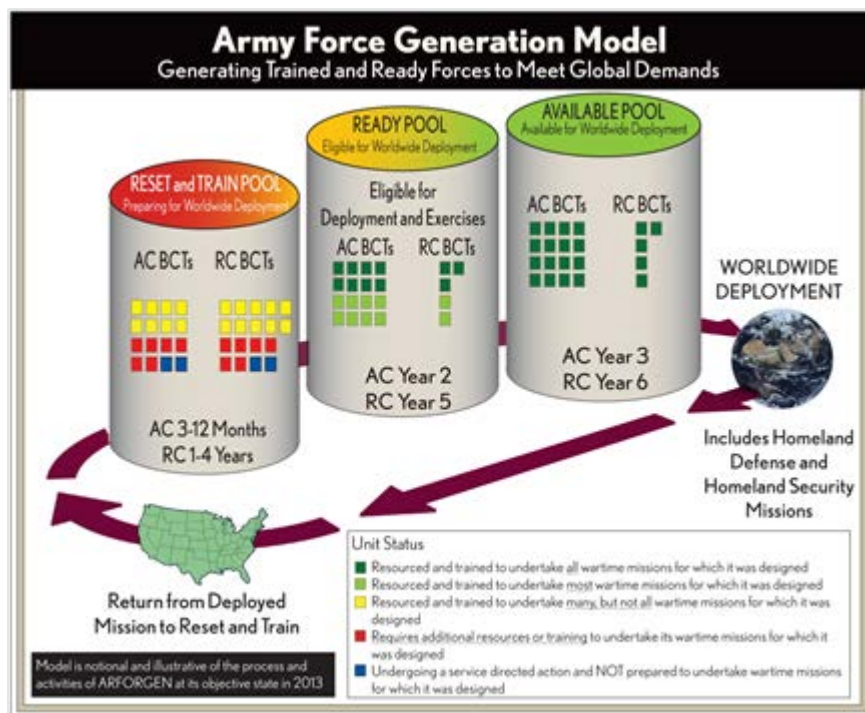


Figure 1. ARFORGEN Model

Source: MAJ Brandon Grubbs, MAJ Bill Hass, and LTC Robert Reynolds, "Ready, Set, Deploy," *The Army Logistician* 40, no. 2 (March-April 2008), accessed 14 November 2016, [http://www.almc.army.mil/alog/issues/MarApr08/ready\\_redeploy.html](http://www.almc.army.mil/alog/issues/MarApr08/ready_redeploy.html).

Through the Force 2020 concept of optimizing individual and team performance, BCT commanders were responsible for the training management of their organization. As a result of this training and management oversight, the question now looms, who is responsible for the artillery training within a BCT; the BCT commander or the fires battalion commander? How does the Division Artillery (DIVARTY) commander help the BCT commanders with the technical and tactical competence required to ensure that the howitzers are providing support and that fire support is integrated to allow maneuver freedom of action? Army units face a multitude of tasks that they are asked to perform. Army Regulation (AR) 350-1, *Army Training and Leaders Development*, lays out what commanders are required to execute to ensure garrison readiness, including operational and self-development in training of their subordinates.<sup>4</sup> The training requirements that the field artillery needs to accomplish to reach proficiency in their core competencies cannot be accomplished in isolation. As uncertainty unfolds, the ability to task organize the artillery support in a BCT to meet the demands of the next threat will become a challenge that the next generation of leaders will face.

Decisive action demands units become proficient in their core competencies within their assigned MOS. To achieve levels of proficiency through balancing these requirements, fire support leaders will need to regain individual and team momentum to meet these demands. The incorporation of all the warfighting functions within a BCT to ensure that fire support is integrated will require task proficiency and experience to ensure that standards are met. The BCT will require time and resources to ensure that they remain ready to execute the tasks and requirements that a decisive action environment will present. A DIVARTY commander and staff will now be able to provide

the requisite experience and knowledge necessary in assisting a BCT commander and staff in meeting these standards. This will also allow oversight of the BCT FSCOORD and Fire Support Officer (FSO) to ensure that they assist these individuals in any experience gaps with integrating and training fire supporters. In addition to the training and experience gaps, fire supporters struggle to train on standards with assigned equipment. This training requires field service representatives that assist units in meeting readiness and training levels. Incorporating field service reps into equipment training will reduce the number and frequency of errors due to inexperience of the operators due to MOS and skill requirements. The experience levels that co-exist with this equipment are often lost as soldiers and leaders perform duties outside of their assigned MOS, in some cases for extended periods of time resulting in years.

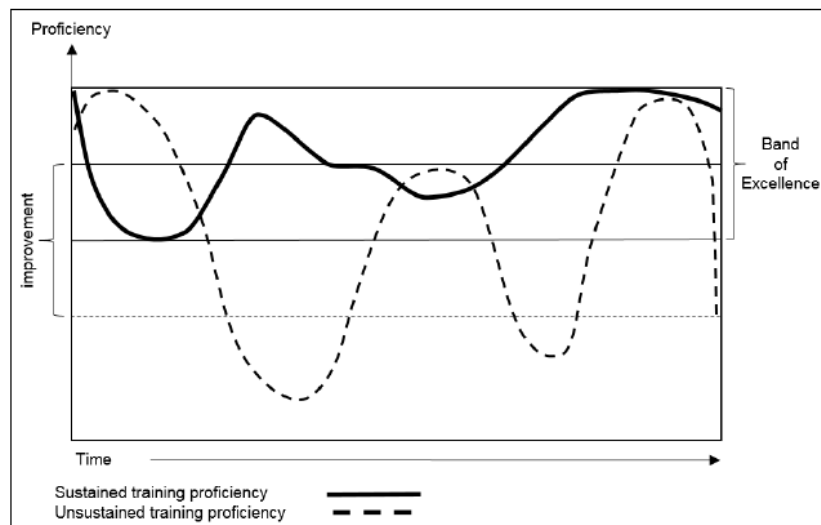


Figure 2. Sustaining Proficiency within a Band of Excellence

Source: Headquarters, Department of the Army, Field Manual 7-0, *Train To Win In A Complex World* (Washington, DC: Government Printing Office, October 2016), 1-3.

It is a challenge for commanders to ensure that units prepare themselves to guarantee readiness of all MOSs. Commanders need to ensure that their units remain ready within the prescribed training timelines set forth by the BCT commander (see figures 1 and 2). As the Army seeks to complete combat operations in Afghanistan and Iraq, decisive action is starting to show the gaps in training, leadership, and experience that are now being briefed at senior levels within the Army.<sup>5</sup> At CTC, commanders are now facing new training and readiness challenges that they have never seen. A challenge often found when meeting the ARFORGEN cycles requirements and the band of excellence is that BCT commanders are trying to train their subordinate leaders and soldiers through personnel movement cycles and institutional training requirements. To maintain proficiency within the organization, units rely on Standard Operating Procedures (SOPs) as the continuity to fill these experience gaps. BCT commanders continually work with Human Resources Command in order to fill vacancies while ensuring that talent and development continually spread amongst the rest of the Army. To assist BCT commanders with these vacancies and CTC observed gaps in training the Forces Command (FORSCOM) Training Guidance, GEN Robert Abrams delegated the decisions of what BCTs would be trained on to the two-star level.<sup>6</sup> This allowed division commanders the ability to create the necessary dialogue with subordinate commanders to isolate the training needs for their particular BCT. The BCT commander and staff must now determine the right balance of training tasks based on the experience of their formation.

To overcome the training oversight and management, BCT commanders rely on the experience of the BCT FSCOORD and the BCT FSO to ensure that fire support is

thoroughly trained and integrated. Training, leadership, and experience gaps did not necessarily reside within the firing units in a BCT. The issue of training FSOs, staffs, and maneuver commanders on how to integrate fires in training and operations required experienced artillerymen to oversee this training. Most BCT, battalion, and company FSOs lack the experience of serving under senior field artillerymen in a DIVARTY or fires brigade. With the modularity change of bringing back DIVARTY, this will potentially assist in closing this experience gap with BCT commanders and FSCOORDs in training and leader development.

When commanders train their units, experience, continuity, time, and readiness of their unit are all factors they strive to seamlessly manage while working through the ARFORGEN cycle. Achieving the band of excellence while managing the complexity of duty station times of the soldiers and leaders operating within a BCT will require experienced leaders become involved. The experience level of the leaders and soldiers within a BCT to integrate fires is becoming more prevalent than ever based upon the trends from the CTCs. Home station is where these gaps need to be addressed through training plans that incorporate all the assets and systems that currently operate within a BCT.

### The Integration and Delivery of Fires

The modularity changes under budget constraints, upgrades to technology, and ensuring fire support integration among all members of a brigade staff continue to amplify the challenges facing the warfighter:

We must be prepared to decentralize operations to adapt to complex and rapidly changing situations. Yet, organizational or physical decentralization alone may be insufficient to meet the challenges of the future. Leaders throughout our

future force must have both the authority as well as the judgment to make decisions and develop the situation through action. Critical thinking by Soldiers and their leaders will be essential to achieve the trust and wisdom implicit in such authority. The training and education of our entire force must aim to develop the mindset and requisite knowledge, skills and abilities required to operate effectively under conditions of uncertainty and complexity.<sup>7</sup>

As a result of these modularity changes, the BCTs are now facing experience, training, and leadership gaps at lower echelons in integrating fire support. Former Commanding General of the Fires Center of Excellence, MG David Halverson realized that in order to create leaders, soldiers, and units that represent the force described in the *Army Capstone Concept*, the adoption of an enterprise approach to fires will become problematic if not resolved.<sup>8</sup> To accomplish this enterprise approach through combined arms maneuver, all echelons within BCTs will need to understand how to integrate fires to support maneuver.

The fires warfighting function will need the requisite experience and oversight at the BCT level to ensure that fires and maneuver understands the importance of their integration. To accomplish ULO, maneuver will be expected to seize, retain, and exploit the initiative in order to gain and maintain a position of relative advantage in sustained land operations through simultaneous offensive, defensive, and stability operations in order to prevent or deter conflict, prevail in war, and create the conditions for favorable conflict resolution.<sup>9</sup> The warfighting functions assist commanders in conducting ULO through the integration of all tasks and systems. The warfighting functions are a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives through the mission command philosophy.<sup>10</sup> The warfighting functions possess scalable capabilities to mass lethal and nonlethal effects. The fires systems within the BCT deliver

fires in support of offensive and defensive tasks to create specific lethal and nonlethal effects on a target.<sup>11</sup> The fires warfighting function includes the following tasks:<sup>12</sup>

1. Deliver fires.
2. Integrate all forms of Army, joint, and multinational fires.
3. Conduct targeting.

To properly integrate and employ fires in support of the movement and maneuver warfighting function requires a detailed understanding of the concept of the operations in order to develop a cohesive scheme of fires to support maneuver. In the article "The United States Needs to Get Serious about Artillery Again," Russia's military force resembled some of the same characteristics in or concepts of conducting a three dimensional fight with the integration of movement and maneuver adequately supported by airpower, land based-fires and other enablers on the ground. These changes resembled the way of fighting in previous conflicts. Russia defeated their opponents in the same manner that the United States has conducted operations during OIF and OEF. The challenge now will be getting back to the quick integration and synchronization of combined arms teams within a BCT in a decisive action environment.

Through modularity, changes to the BCTs with the DIVARTY concept re-emerging allows the oversight of the integration of fires at the division level and the BCT level. Fighting an enemy with the same capabilities that has adopted the concepts that the U.S. military used allowed Russia to gain the necessary momentum to create the urgency needed to better integrate fires within all echelons in a BCT. This integration will be slow to regain the momentum that is required in a decisive action environment. This is due to the COIN experience most leaders have versus decisive action experience. Home station

training to increase experience levels will become more important in preparing a BCT for decisive action. As the Artillery Branch faces changes to the force structure, artillerymen will now have to do more with less by filling the gaps in MOSs that were eliminated due to modularity changes. The challenge of soldiers and leaders having to learn new aspects of their MOS in addition to the skills previously required will demand more time and frequency to train. As Russia continued to integrate their artillery into combined arms maneuver, the U.S. military re-structured to downsize the force causing additional unintentional gaps in support within the artillery. The unintentional gaps created from the downsizing within the Artillery Branch continued to show trends in atrophied skill sets and in the ability to provide support to maneuver in a timely manner.

Currently at the division level and above, initiatives were made to fill these capability gaps. DIVARTY and BCT commanders were forced to cross train their soldiers on these tasks assumed by the remaining MOSs. The frequency that the training must occur will have to be delicately planned by commanders and staffs through an understanding of how fire support needs to be employed within their BCT. Selecting the appropriate tasks and enforcing the right standards will ensure that soldiers are resourced and trained properly and allow the necessary experience levels to reform in the formations again. The institutional Army has already adjusted their curriculum to train new soldiers and leaders on these modularity changes. BCT commanders will have to assume risk on fire support experience levels as they transition into new modularity concepts.

## Summary

Understanding the complexity that commanders face when training their units is paramount for any leader developing a unit training plan. Understanding the tasks associated and creating the right mix and balance of time with available soldiers is extremely critical when it comes to training artillerymen. Artillery is a weapon system that requires a lot of training, experience, and the leader's ability to understand the capabilities of this premier system. Capability gaps in the artillery's ability to provide surface-to-surface and surface-to-air fires perplexed with experience gaps will continue to challenge leaders at all echelons within a BCT. The Force 2020 concept and the challenges of the ULO concept pose a challenge from the modularity changes and downsizing of the Army executing decisive action. The BCT commanders' and staffs' ability to utilize resources at the right place and time will provide additional challenges as modularity continues. The staffs within a BCT and their understanding of the integration will require extensive training at home station and CTCs to close the gaps in training, leadership, and experience.

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<sup>1</sup> Sean MacFarland, Michael Shields, and Jeffrey Snow, "The King and I: The Impeding Crisis in Field Artillery's Ability to Provide Fire Support to Maneuver Commander" (White Paper, Memorandum to Chief of Staff of the Army, 2007), 1.

<sup>2</sup> MAJ Brandon Grubbs, MAJ Bill Hass, and LTC Robert Reynolds, "Ready, Set, Deploy," *The Army Logistician* 40, no. 2 (March-April 2008), accessed 14 November 2016, [http://www.almc.army.mil/alog/issues/MarApr08/ready\\_redeploy.html](http://www.almc.army.mil/alog/issues/MarApr08/ready_redeploy.html).

<sup>3</sup> Headquarters, Department of the Army, Army Regulation (AR) 71-9, *Warfighting Capabilities Determination* (Washington, DC: Government Printing Office, December 2009), 31.

<sup>4</sup> Headquarters, Department of the Army, Army Doctrine Publication (ADP) 7-0, *Training Units and Developing Leaders* (Washington, DC: Government Printing Office, August 2012), 3.

<sup>5</sup> Robinson.

<sup>6</sup> CG, FORSCOM, CTG – FY 2017, 2.

<sup>7</sup> GEN Martin E. Dempsey, quoted in MG David D. Halverson, “Adaptable Fires: Making a Flexible Fires Force for the Future,” *Fires: Mud to Space* (March-April 2010): 1.

<sup>8</sup> Ibid., 2.

<sup>9</sup> HQDA, ADRP 3-0, 1-1.

<sup>10</sup> Ibid., 2-1.

<sup>11</sup> Ibid., 3-4.

<sup>12</sup> Ibid.

## CHAPTER 3

### RESEARCH METHODOLOGY

Throughout history, artillery has shaped the battlefield by allowing maneuver the freedom of action to meet their objectives. The Artillery Branch continues to remain one of the most resilient and versatile branches in the Army. The artillerymen that have conducted in-lieu missions separate from their core competency requirements have eroded capabilities while other nations were seeing the need for artillery on the battlefield.<sup>1</sup> After conducting a COIN centric war, the Artillery Branch is now reviewing their current capabilities to ensure that they remain poised for future conflicts. While executing the range of military operations in ULO in a decisive action environment, BCTs must sharpen their ability to integrate conventional assets, especially fires, to remain flexible in achieving capability overmatch while optimizing fire support. This chapter outlines the research methodology used in order to answer the question: under the model of DOTMLPF, how does the fires force optimize fires at the brigade level? To answer this question, it is important to find answers to two supplementary questions: (1) who is responsible for the training to meet the demands placed upon BCTs; and (2) how does maintaining balance in garrison with the competing demands ensure that artillery fires are properly integrated allowing maneuver the ability to gain a position of advantage? The scope of this paper focuses on using the model of DOTMLPF to analyze the training, leadership, and experience gaps to provide recommended solutions for these gaps. The intent of the DOTMLPF model is to show linkages to the aforementioned scope of meeting the field artillery vision of being the world's premier field artillery

force; modernized, organized, trained, and ready to integrate and employ Army, joint, and multinational fires, across multiple domains, enabling through victory.<sup>2</sup>

### Data Collection

Chapter 3 explains how the case study comparison of the problem statement and the procedure for data collection used in gathering research information to address the primary research question. The research will further define the observations using an exploratory, qualitative research methodology through four case study comparisons.<sup>3</sup> Finally, this chapter discusses how the research methodology will be conducted in order to make recommendations for the way forward in future home station training and leadership understanding in chapters 4 and 5. This research provides the necessary baseline to allow an understanding of how leaders can optimize fires at the BCT level again. The data used for an in depth analysis will consist of journals, white papers, CTC trends, and doctrine to assist in understanding the complexity that modularity changes, and atrophied skill sets have had on the artillery force. A careful analysis is conducted in an applied manner to ensure a clear delineation of these four case study CTC observations to ensure information is accurate enough to gain the necessary context to inform readers of the issues contained within.

### Analysis

The supplementary research questions will allow an in-depth analysis into the problems relating to fire support integration. By answering these research questions, it will become more clear on how fire support at the BCT level needs to be trained and integrated to optimize their lethality in BCT operations.

The secondary research questions are: (1) who is responsible for the training to meet the demands placed upon BCTs; and (2) how does maintaining balance in garrison with the competing demands ensure that artillery fires are properly integrated allowing maneuver the ability to gain a position of advantage? The observations from these case studies will require an extensive review to determine how trends were identified during training and determine the root causes of these trends translating them into gaps. The CTC After Action Reviews determined the gaps in how the BCT employs fires in support of maneuver. The gaps are used to identify trends and characteristics that BCTs will be able to correct in development and training of their leaders and soldiers. Using the DOTMLPF model training, leadership, and experience gaps will assist with recommending to BCT commanders that they review their fire support system to make the necessary corrections to ensure changes are made for the right reasons. The research method and primary and secondary research questions reflect a logical, realistic, and reasonable approach to answering the primary research question. Minimizing bias through the use of multiple sources and objective analyzing the collective perspective will ensure that the root issues of the CTC observations will be identified in assisting to develop recommendations for future BCT training. Through the thorough case study of journals, white papers, CTC trends, and doctrine, recommendations to the force are made and the necessary logical approach through a shared understanding and acceptance of the issues that the BCT level faces are provided.

### Strengths and Weaknesses of Research Methodology

Qualitative research aims at gaining a deep understanding of a specific organization or event, rather than a surface description of a large sample of a population.

It is also called ethnomethodology or field research. It generates data about human groups. Qualitative research does not introduce treatments or manipulate variables, or impose the researcher's operational definitions of variables on the participants. Rather, it lets the meaning emerge from the participants. It is more flexible in that it can adjust to the setting. Concepts, data collection tools, and data collection methods can be adjusted as the research progresses. Qualitative research aims to get a better understanding through firsthand experience, truthful reporting, and quotations of actual conversations. It aims to understand how the participants derive meaning from their surroundings, and how their meaning influences their behavior. It occurs in a natural setting, not a laboratory or controlled experiment. The context or background of behavior is included in observations of people and their environment, and it can be used with inarticulate subjects, such as children or others unwilling to express themselves.<sup>4</sup>

### Summary

Chapters 4 and 5 will provide the necessary recommendations to the challenges posed under the construct of DOTMLPF of how does the fires force optimize fires at the brigade level? The answers to the supplementary questions will further define who is responsible for training to meet the demands placed on the BCTs. The answers will also assist in defining how to maintain balance in the garrison with the competing demands to ensure that artillery fires are properly integrated allowing maneuver the ability to gain a position of advantage. The researcher's methodology will not seek to provide conclusive solutions to the challenges discussed within this thesis, but will provide leaders a greater understanding of the issues and challenges to assist senior leaders at the brigade level and higher to make the necessary changes and adjustments to fit their specific tactical level

needs. This is due to the time limits for completion of this thesis as outlined in Student Text 20-10 in accordance with the Command and General Staff College Master of Military Art and Science Degree Program.<sup>5</sup> The researcher will also discuss the recommendations that may arise from current doctrine and ensure that the recommendations are based on unbiased factual data gathered from lessons learned and feedback from the current force to ensure that the necessary framework exists to guide the fighting force in ensuring synchronization of the fires warfighting function to enable movement and maneuver warfighting functions.

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<sup>1</sup> Jacobson and Scales.

<sup>2</sup> Maranian, 2.

<sup>3</sup> Jane Ritchie and Liz Spencer, "Qualitative Data Analysis for Applied Policy Research," reprinted from *Analyzing Qualitative Data*, edited by Alan Bryman and Robert G. Burgess (United Kingdom: Taylor and Francis Books, 1994), accessed 2 November 2016, [http://admn502a2010a01.pbworks.com/f/wk\\_9\\_Richie\\_Spencer\\_Qualitative\\_data\\_analysis\\_for\\_applied\\_policy\\_research.pdf](http://admn502a2010a01.pbworks.com/f/wk_9_Richie_Spencer_Qualitative_data_analysis_for_applied_policy_research.pdf), 305.

<sup>4</sup> California State University, Long Beach, "PPA 696: Research Methods, Data Collection Strategies II, Qualitative Research," accessed 2 November 2016, <https://www.csulb.edu/~msaintg/ppa696/696quali.htm>.

<sup>5</sup> U.S. Army Command and General Staff College, Student Text 20-10, *Graduate Degree Programs* (Ft. Leavenworth, KS: U.S. Army Command and General Staff College, August 2016), 4-8.

## CHAPTER 4

### ANALYSIS

The Artillery Branch has played a pivotal role in shaping the battlefield and allowing freedom of maneuver for centuries. The changes that the Army has endured throughout this time have allowed leaders and soldiers to become extremely adaptable through the modularity, technological, and doctrinal changes. During OIF and OEF, the Army fought a COIN fight while other nations and their militaries compared how U.S. forces operated through updates in their training and doctrine. The changes allowed nations and their militaries to extensively learn how the U.S. military fought and to adapt their force to these observations. The result is seen in the Ukraine with Russia and its forces in how they employ their military within the domains of air, land, maritime, and cyber. The result in the Ukraine with Russia's military using airborne drones to target enemy forces, combined with artillery strikes and electronic attack degrading communication networks has created a tempting debate on whether or not the Russian military is able to have the same effect on U.S. forces. The challenge posed by the Russian military along with China's anti-access/area denial movement causes additional training requirements and challenges for forces. To address these challenges, it is important to use the model of DOTMLPF, specifically training, leadership, and education to determine how the fires force under the 2020 modularity construct optimize fires at the brigade level.

Chapters 1 and 2 provided an understanding of the issues that the Artillery Branch faced after conducting two decades of non-traditional mission sets. The impacts that it had on the artillery leaders and soldiers following technological and doctrinal changes

while performing these missions continue to provide gaps that forces are continuing to identify. The Artillery Branch continued to support maneuver through these non-traditional mission sets at the expense of core competencies and experience. Through this continued support to maneuver, the artillery faced on the battlefield due to civilian concerns causing greater degrees of risk for commanders. These concerns were often associated with high levels of risk as the artillery assets were found not integrated into operations in urban environments against hybrid enemies and insurgents. To meet the expectations of the Force 2020 it is important to correct these training, leadership, and experience gaps by training leaders to re-gain the requisite experiences through the lessons learned from combat and training centers. In order to accomplish this, BCT and DIVARTY commanders will be instrumental in working with their organic forces to ensure that training distractors are mitigated to achieve the right amount of balance in ensuring that the artillery units are incorporated into the BCT training plan. The four case studies used to conduct research on these gaps in artillery fires spanning from 1997 to 2017 continue to degrade the artillery effectiveness when supporting maneuver. In the CTC case studies, observations were identified in issues with the fires integration and the timely execution of fires in support of the maneuver plan. From rehearsals to execution, in most cases, artillery fires were unresponsive in providing timely fire support for maneuver. The gaps were due to experience gaps, lack of specific MOS training, and improper staff integration, resulting in improper fires employment and fire supporters lacking the necessary training on their assigned equipment.

Chapter 4 explains how the last two decades of COIN coupled with the changes that the Artillery Branch has faced with technological and doctrine improvements have

presented challenges to leaders and soldiers within a BCT. The eroded competencies from the last two decades of non-traditional mission sets have placed constraints on artillery forces, most notably in the training due to the reduction of experience levels in core competencies. It is apparent from the case studies conducted from 1995 to present day that some trends in training have remained the same, but some new challenges were created based on the new technology and type of warfare. Further analysis of the primary research question yields itself to other preceding questions to fully understand the issues as they relate to the methodology and framework used in gaining a better understanding of the issues facing the Artillery Branch. During these training observations at CTCs, it became apparent that the Artillery Branch's training on the technological advancements and doctrinal changes to meet the demands placed on BCTs continue to challenge the experience levels within a BCT at the leadership level. The Army recently brought back DIVARTY units to assist Army divisions in synchronizing fires to bring them back to their pivotal roots of shaping the battlefield. This change was needed as BCT commanders and Brigade FSCOORD were in need of additional oversight in the training and management of artillery leaders and the training that they conducted. These DIVARTYs are assisting division, BCT and artillery battalion commanders in correcting these training gaps. Decisive action tasks result in competing demands on fire supporters at home station due to the maneuver requirements that need to be met.

Chapter 4 organizes the results from the CTC case studies and shows the trends from 1997 to present day. At the end of this thesis, trends from CTC and home station training will allow an understanding of what these gaps consist of and how to plan training and structure changes to reverse these gaps. The Artillery Branch's ability to

provide this support in the land domain and integrated with other BCT assets will become crucial as the Artillery Branch continues preparation for the Force 2020 modularity changes. Data from the Center for Army Lessons Learned (CALL) and CTC observations will allow an in-depth look through the lens of DOTMLPF at what training units are conducting at home station to assist in reducing the gaps observed while conducting decisive action. This chapter uses the model of DOTMLPF focusing on the training, leadership, and experience aspects in relation to training received at home station, who is responsible for that training and who is responsible for integrating artillery support into the BCT. The next aspect this chapter examines is leadership at the BCT and battalion level to ensure that experience gaps are identified and the right programs are in place to develop these leaders. The last aspect focuses on the fire support gaps in training to gain an understanding of how to plan training at home station to allow a full integration at all training events.

#### CTC Training Gaps Isolated

The training gaps identified in this chapter were a result of four case studies spanning from 1995 to 2017. These case studies consisted of self-propelled and towed howitzer systems in training scenarios spanning from fifteen to thirty days executing decisive action tasks in support of maneuver. Fire support planning was identified as a consistent trend prior to OIF/OEF based upon BCTs ability to conduct planning. This leads to a lack of shared understanding of how fires planning products like the attack guidance matrix, fire support execution matrix, and high payoff target list products would be used in support of the scheme of maneuver. These products assist maneuver in achieving lethal and non-lethal effects when requesting the necessary fire support. This

requires de-confliction that occurs through the design and execution of these products to allow all echelons in a BCT to understand how fires will be employed in support of the operation. When training with fires and maneuver at home station to meet the commander's objectives, it is evident that there the artillery leaders lack experience. The home station training that units currently conduct is well planned and executed. The issue with home station training is the integration and oversight of experienced senior artillerymen performing these operations leaving an unsatisfactory comfort level with BCT commanders when employing fire support. During the last two decades, COIN often left commanders needing precision effects. This, combined with artillery conducting non-traditional missions eroded the experience and relationship between maneuver and artillery. It will require repetitive training incorporating fire support with all maneuver training to ensure proper integration is achieved. BCTs train their units at home station based on their METLs. The challenge for BCT staff is that they lack the experience when it comes to incorporating artillery. Fire support and other functions within a BCT train in isolation along with other field branches and low density MOSs doing the same. The goal of CTCs is to replicate realistic training scenarios against a near peer adversary forcing the BCT to integrate all assets into the fight. The isolated training that has been conducted up to this time becomes reflective of how the BCTs are able to perform their operations during combined arms maneuver. Fire support should be used in every facet of the operation. It is through the incorporation of these personnel that everyone reaches understanding and improves the relationships that are needed by all commanders. In order to solve these isolated gaps, leadership and experience in planning amongst all staffs in a BCT needs to be solved in order to properly understand how fire support is

integrated into operations. Integrating fires into every operation and not isolating the training allows leaders and soldiers to establish the relationships and trust necessary to reduce the risk levels that are needed in decisive action.

To achieve the unit's METL, BCT staffs must master the fundamentals of their warfighting functions through strict training and planning standards. Competitive repetitions, management of personnel readiness, and understanding previous experience can assist a unit in establishing a training plan that is tailored to their experience level. These repetitions are crucial in getting the fundamentals back into the formation and assisting in updating tactics, techniques, and procedures (SOPs) by updating of Planning SOPs for that particular unit. The standardization of products using the doctrinal foundations will ensure that units communicate the same understanding. Once this is achieved, then the integration can occur where the staff relies on each other in planning the operation to meet the commander's objectives with all assets synchronized. Most staffs continue doing what previous staffs have accomplished, which is evident from the case study observations. They are conducting the same mistakes in planning and integrating fire support made even prior to OIF and OEF. The individual training that these staffs must meet prior to conducting collective training is paramount in establishing core competencies in branch specific areas. Individual and collective training standards need to be met before staffs will be able to properly understand what is required to fully integrate assets from each warfighting function.

#### Artillery Leadership Experience at the Battalion and Brigade Level

In COL Michael Hartig's strategy research project at the U.S. Army War College, he quoted Marine Corps Maj Michael Grice's article, "Resuscitating the King:

that the future of the artillery community lies in the young leaders, at all levels, who are building their basis of experience early in their careers. Over five years of Counterinsurgency (COIN) warfare have taken their toll on the skills of artillerymen. Many young Marines have become NCOs and many lieutenants become captains with virtually no experience in their military occupational specialty (MOS).<sup>1</sup>

The trends from CTCs found that artillery units were prepared based on their unit METLs. In some cases, units lacked the ability to provide timely fires through the lack of integrated and rehearsed fire plans with maneuver, which resulted in a lack of shared understanding. In order to achieve flexibility for the BCT commanders, artillery and maneuver leaders must understand how to leverage lethal and non-lethal effects. The tensions created as a result of the experience, training, and leadership gaps at all echelons within a BCT require a shared understanding at all levels. This absence of understanding during planning became evident during combined arms rehearsals when the scheme of fires were briefed in supporting the maneuver plan. BCTs struggled with rehearsals due to time constraints and the experience of the staff executing the rehearsal. In the fire support portion of the maneuver plan, the artillery was challenged by the time available to properly plan fires through minimal or detailed guidance given to properly create the necessary fire support products like the attack guidance matrix, fire support execution matrix, and high pay off target list. These products are what fire supporters need to ensure that maneuver is supported. The creation of these products is driven by command emphasis and the commander's ability to lead their staffs in ensuring that they have the necessary guidance in planning all assets supporting the operation in meeting the commander's objectives.

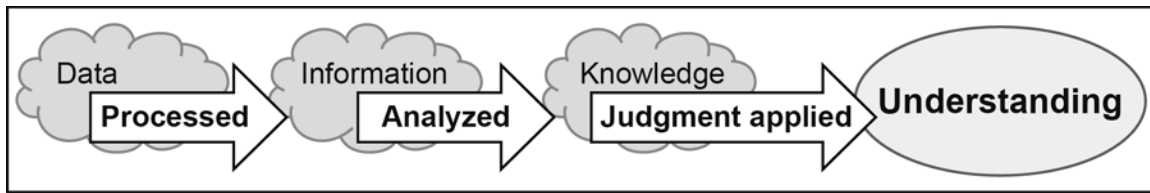


Figure 3. Achieve Understanding

Source: Headquarters, Department of the Army, Army Doctrine Reference Publication 6-0, *Mission Command* (Washington, DC: Government Printing Office, May 2012), 2-7.

Figure 3 above represents what a commander and staff must execute to achieve understanding when executing the art of command while balancing the science of control.<sup>2</sup> As BCT staffs conduct the planning process for an operation and determine what framework they will use, each staff member of the BCT needs to understand how they will support the commander's guidance and meet their objectives. The use of judgement allows each staff member to understand what is to occur and ensures that all levels understand how the operation is executed. According to Army Techniques Publication (ATP) 3-09.23, *The Field Artillery Cannon Battery*, rehearsals are an integral part of the planning process. An effective rehearsal practices and tests the plan.<sup>3</sup> To reach a level of understanding, experience must first be gained through repetitive training and a command structure with oversight from senior artillery and maneuver leaders. To conduct the leader development and training oversight to assist primarily experienced COIN leaders currently leading formations, leaders must understand what challenges the decisive action environment requires. The issue is that most subordinate leaders within a BCT mostly have COIN experience and have never been trained on decisive action tasks. The institutional Army has already corrected their curriculum to ensure that leaders

understand what is expected of them, but this still does not fill the void in experience levels currently in BCT formations.

During the CTC rotations from 1997 to present day, rehearsals still affected field artillery and maneuver units' ability to integrate fires, which resulted in the fire support planning becoming disconnected from the maneuver planning. To answer the primary research question, under the model of DOTMLPF, how does the fires force optimize fires at the brigade level, the fire support experience levels within the artillery maneuver leaders will have to increase. When the BCT commander issues guidance for planning, it is the staff's responsibility to start the process of synchronizing and integrating all of the organic assets assigned to the BCT. The fire support plan is a significant component of the BCT commander's operation plan or operation order and fires concept of support with its associated appendices, tabs, or enclosures<sup>4</sup> The guidance for fires ensures that the fires system provides the right amount of lethal and non-lethal effects to support their maneuver objectives. To accomplish this, the warfighting functions need to collaborate to ensure that the assets planned meet the commander's end state. As the warfighting functions start to conduct their initial running estimates and prepare for the mission analysis brief, one of the observed CTC trends identified that staffs attempted to abbreviate the Military Decision Making Process (MDMP) when they were not fully trained on the entire process.<sup>5</sup> Before every CTC rotation, a BCT commander will be allowed to take the staff and subordinate battalion staffs to conduct a Leadership Training Program where the staff conducts the seven steps of MDMP.

When BCTs conduct MDMP at home station to plan events that the BCT executes, they often times struggle with managing the time and knowledge required to

thoroughly plan training events. This increases in complexity when planning combined arms maneuver because warfighting functions are not integrating and collaborating with other staff members. This is usually led by the operations officer through the oversight of the executive officer. It is the responsibility of these two officers to ensure that all staff functions meet the commander's guidance and that they incorporate the commanders when further guidance is needed. Fire support challenges in the decisive action environment require extensive experience and leadership oversight as seen by the CTCs. By leveraging former experience in COIN, younger artillery officers including warfighting functions, a BCT's ability to integrate fire support into maneuver operations will ensure that assets are arrayed properly to support the operation. Targeting integration into MDMP and in the refinement planning necessary for sensor-to-shooter linkage to provide effective fires in a timely manner is another factor that can assist staffs with this integration. Artillery units have difficulty accomplishing their mission if the targeting working group is ineffective in planning through the underutilization all of their digital equipment, and fire support rehearsals not being rigorous enough. <sup>6</sup> CALL published a newsletter, *An Artillerization of the Military Decision Making Process (MDMP)*, where it presented the responsibilities were of each staff section (including the operations officer and executive officer) in ensuring that collaboration was occurring between staff sections (now called warfighting functions).<sup>7</sup>

The warfighting functions and the concept of mission command guided by its principles was centered on the idea of the operations process and the commander's ability to drive the process. The same problems that existed over two decades ago exist today under the mission command philosophy.<sup>8</sup> These planning problems with incorporating

fire support to enable maneuver creates an environment for leaders in remedying this experience gap through proper integration of all warfighting functions. With most of the senior leaders at the BCT and below conducting COIN, inexperienced leaders must rely on the colonel level and other senior artillery leaders to help younger officers and non-commissioned officers to learn the fundamentals of decisive action for their MOS. This was also the core principal in the commander's training guidance from GEN Abrams in fiscal year 2017<sup>9</sup> and fiscal year 2018.<sup>10</sup> The Sustainable Readiness Model and the ARFORGEN model assist units in meeting readiness standards set forth by senior leaders within the Army.<sup>11</sup> The institutional Army's training of the force in entry level training to correct the experience gaps with decisive action will take time. The BCT has experienced leaders within their formation from the past two decades of conflict. Leaders will need to assist each other with resident fire support knowledge and training in the future while assisting all soldiers and leaders within the BCT in having an understanding of how to incorporate these tasks to regain the experience levels in the decisive action environment.

Currently, the Army has extensive COIN experience while decisive action experience resides mostly with senior leaders in the Army. The reliance on senior artillery commanders and maneuver commanders who have decisive action experience will be crucial to overcome these leadership experience gaps. The re-emergence of DIVARTY and having a senior artillery commander to assist BCT commanders in dialogue can assist them in developing the FSCOORD and BCT FSO in meeting requirements that these two individuals fulfill. To achieve the resident levels of fire support integration that the Army had in most cases prior to COIN will require extensive

oversight by these leaders to develop them quickly enough to reverse the current CTC training gaps identified.

### Impacts of Training Gaps

To meet the readiness levels with limited experience in decisive action, will require experienced leaders involved in training to ensure that pre-OIF and OEF fundamentals are reached. How BCTs will train while in garrison with competing demands placed on artillery units that are preparing for future missions will require balance in order for BCTs to ensure that artillery fires are properly integrated to gain a position of advantage. In answering the supplementary questions of this research, leaders at all institutional and operational levels are innovating instruction to bridge this gap to ensure that forces are ready when called upon to meet a near-peer adversary. To answer this supplementary question, leaders at all levels both institutional and operational are innovating instruction to bridge this gap to ensure that when our forces are called upon, it will most likely be a near-peer adversary. AR 350-1 has a multitude of annual, semi-annual, bi-annual and quarterly requirements that units must complete.<sup>12</sup> Installation requirements in addition to the AR 350-1 for soldiers and leaders are another factor in planning that are different based upon their assignment. Soldiers and leaders also have new MOSs on which they must train. These new MOSs will have to be incorporated into unit METLs. If ARFORGEN and Army Service Component Command driven missions require tasks beyond a unit's METL, the unit will adjust the supporting tasks to the METL in order to attain proficiency and accomplish missions.<sup>13</sup> In order for a unit to start to build on its fundamentals, a unit must be "Ready Now."<sup>14</sup> GEN Abrams defines readiness by four measured areas in his Fiscal Year 18 Commanders Training Guidance

as: personnel, supply, maintenance, and training.<sup>15</sup> Commanders account for the four measured areas throughout planning, preparation and execution with each having equal weight while balancing the outcomes of the training to have a more capable unit.<sup>16</sup> Chapter 2 analyzed the requirements that units needed to accomplish and provided the insight to which level this fire support oversight should come from, the DIVARTY. The fire support training oversight that is needed to ensure that all field artillery MOSs and capabilities are trained requires oversight and experienced leaders. Through SOPs and tactics, techniques, and procedures, flexibility will be needed at all levels to meet the unit training plan's objectives. Leadership within a BCT and below currently resides in COIN tasks. The Army is now asking the BCTs to become proficient in core MOS fundamentals, while the only formal instruction on decisive action tasks resides at the institutional level.

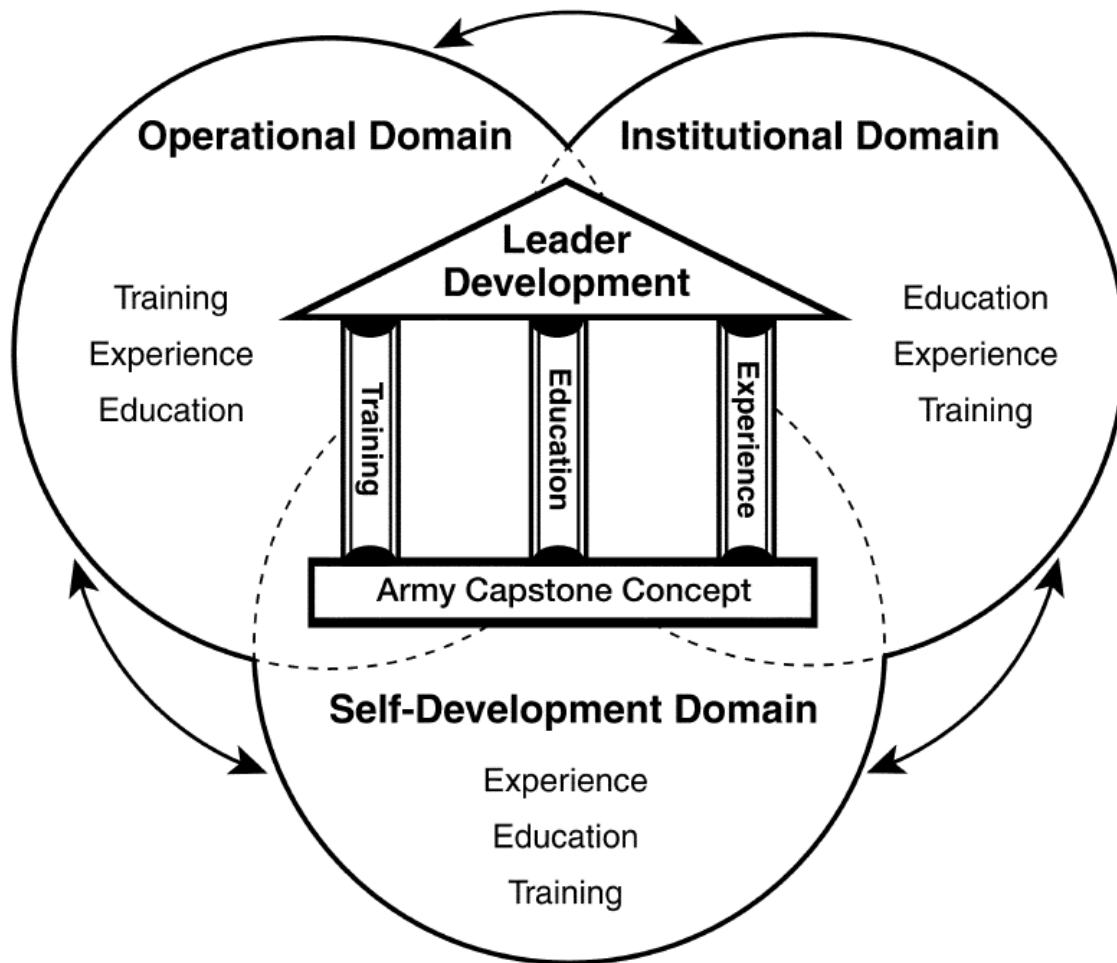


Figure 4. Army Leader Development Model

Source: Headquarters, Department of the Army, Department of the Army Pamphlet 350-58, *Training, The Army Leader Development Program* (Washington, DC: Government Printing Office, March 2013), 2.

In figure 4, the Army's Leader Development Model is where initiatives will be intended primarily to produce, promote, or enhance one or more of the attributes or competencies in Army Doctrine Publication 6-22, *Army Leadership*, the Leadership Requirements Model, and/or the leader development imperatives.<sup>17</sup> Any initiative that does not meet these criteria; that does not define a solution aimed at achieving specific

Army and leader development goals or objectives; or that does not address a specific leader development gap or shortfall, is an invalid proposal and should not be initiated.<sup>18</sup>

A key phrase out of the above statement is leader development gap or shortfall. It is important to identify where these gaps or shortfalls are made and look for ways to mitigate them later in a leader's career. This starts at the initial entry training or basic course for officers and professional military education for non-commissioned officers starting at the sergeant level. Currently the instruction given during these initial entry courses covers the basic fundamentals of how these leaders were expected to perform their assigned MOS. The challenge is that not all BCTs are alike or operate the same. Artillery officers are required to learn 155-millimeter howitzer fire direction techniques but are not necessarily trained on the platform that they will be assigned to until they reach their unit. This creates challenges for units as they receive these newly fundamentally trained leaders that are forced to operate under unit SOPs and tactics, techniques, and procedures. Most units do not fully follow doctrine or training publications but are forced to follow the regulatory guidance mandated by the Army. Units with limited decisive action experience have to train at home station, which will lead to more time required to break the COIN experience levels. It is human nature to develop habits and then it is hard to break these habits as illustrated from the four case studies from the CTCs. Through the four case studies that span twenty years of military training, units have been observed making the same mistakes in the same replicated environments resulting in a need for a change in home station training.

The MOS training and tactics, techniques, and procedures that are developed and used within a BCT need to encompass the whole formation. This approach allows a

commander to understand the right guidance that they need to issue and allows the staff to understand the requirements of the METL and the impacts that training events have on the formation. The integration of planning is only the start of the integration of the training. The integration at all planning levels will result in the same integration during execution. The isolation that often occurs becomes repetitive as units continue to plan and execute training. To break the cycle of training isolation, units need to look past their assets and determine how to integrate organic assets to achieve freedom of action from their elements. This will place the MOSs in the right positions conducting their core competencies, which will allow the fundamental ability of the organization to increase. The result is better understanding and trained soldiers within their formation that allows for their experience levels to increase. This is all done with the right resident experience at the senior levels to ensure the right standards are being met for a decisive action environment.

#### Training and Experience Observations in Fire Support

The CTCs have repeatedly reported on the shortcomings of FSOs and their ability to provide close supporting fires for the maneuver commander.<sup>19</sup> Arguments have been made by fire supporters that BCT commanders are not telling artillery leaders what they need to know in order to plan effective fires to support the commanders' overall objectives. Units that attend CTCs are now integrating fires situation training exercises in conjunction with their rotations with supporting maneuver companies to allow integration with maneuver. The company and battalion FSOs need to ensure that fires are integrated into the maneuver plan and ensure that the guidance for fires is given from the commander. In some cases, the maneuver commander may not know what he needs of

the fires warfighting function, which is where the fire supporter needs to become involved by supporting the commander and helping write their guidance for fires. Once guidance is given, everyone develops a plan that achieves the results that meet the commander's objectives. At the BCT level, the commander has three people that will assist the BCT staff in ensuring that fires are being utilized, integrated, and supported: the FSCOORD, BCT FSO, and DIVARTY commander.

With command emphasis, the three previously mentioned artillery leaders at BCT level assist the maneuver commander in ensuring that fire support is fully integrated and utilized. The BCT FSO advises the commander and staff on fire support matters. The BCT FSO's expertise in helping the commander execute the operations process becomes the critical point where fire support is used effectively. When briefing fire support tasks, the BCT FSO must ensure that types of fires match the targeting objectives for each fire mission. The BCT FSO, works directly with the BCT commander and staff to ensure that the BCT FSCOORD can clearly articulate where and when the BCT commander will have the necessary support. The BCT FSO coordinates with the other BCT warfighting functions to ensure that they are also integrated into the fires plan to include their involvement in the BCT targeting process. The BCT FSO plays a vital role in integrating attachments and enablers that are attached to the BCT for a particular operation or training event. During home station training, it is vital for the BCT FSO seek out additional enablers, synchronize the BCT training schedule and develop relationships with these attachments and enablers prior to any major training event or operation. The BCT FSO must have an understanding of the direct support (DS) assets that are assigned to the BCT to ensure that they are also incorporated into training prior to any major

training event. The BCT FSCOORD ensures that the BCTs organic fires assets work as a system to incorporate all DS assets to ensure that the right system, target, and effect is employed to support maneuver forces in accomplishing the BCT commander's objectives. The BCT FSCOORD is the BCT commander's primary fire support advisor and brings a professional assessment of the current and near-term capabilities of the field artillery unit and of other fire support assets supporting the force.<sup>20</sup> ATP 3-09.42, *Fire Support for the Brigade Combat Team*, states that the FSCOORD's inherent duties include consolidated and focused fire support specific training, equipment issue, certification, standardization, readiness, and personnel management oversight (assignment, and professional development of all 13-series career management field soldiers) for all field artillery personnel and equipment within the BCT.<sup>21</sup> Other DS assets assigned to the BCT that are a part of the fires system need to be detailed as to what parts of the training oversight are the FSCOORD's responsibility. Once this is identified, then the BCT commander will ensure that all other subordinate commanders understand the roles and responsibilities that the FSCOORD has in ensuring integrated and synchronized training within the BCT. Additionally, the FSCOORD will facilitate establishing SOPs for fire support across the BCT (to save time and ensure a single standard).<sup>22</sup> The DIVARTY commander holds inherently the same responsibilities as the BCT FSCOORD but focuses more on division assets as a whole while assisting BCT commanders with ensuring that synchronization of fires and oversight to the BCT FSCOORD are meeting the commander's objectives. The BCT FSCOORD and the DIVARTY commander are the only two personnel that have command authority and the experience necessary equivalent to the BCT Commander. To achieve the effects at the right time and in the

right space, BCT staffs will need the right command emphasis, coordination, and allocation of resources to ensure fire support is integrated and synchronized during all phases of the operation. The BCT FSO must leverage his expertise with the BCT staff to ensure that the right products are developed during the planning process in order to utilize the resources available to a commander to ensure that the BCT commander understands how the battlefield is being shaped to make decisions for future engagements.

The experience of the field artillery personnel within a BCT including the fire supporters ensures that the planning aspects of the operation are accomplished. GEN Abrams, in FORSCOM Cyclic Training Guidance for Fiscal Year 18 states: “Commanders build time into training plans-at home station and the CTCs/WFXs-to retrain the unit.”<sup>23</sup> Commanders two levels up certify their subordinate leaders and enforce formal certification programs. “Ensure leaders are educated, trained, and qualified prior to assuming command or any leadership position in an organization.”<sup>24</sup> Leaders and soldiers are expected to meet Army institutional requirements for their rank level and position. Once they enter the operational Army, the unit commanders are responsible for ensuring that they maintain that expertise to include learning the procedures prescribed in doctrine and SOPs to ensure that they continue to develop professionally through leader development programs and training. Some issues with training at home station are the burdens that garrison requirements and unit and personnel readiness are some challenges that units face. Much like during the past two decades of COIN where artillerymen were conducting in-lieu of missions this made it hard for fire supporters to maintain those proficiencies. In some of the CTC trends, fire supporters were still not placed in their assigned MOS positions but were assigned to units in the

correct position based on Unit Status Reports based on where the commander needed soldiers to accomplish the mission. This is because of a lack of personnel and lack of confidence in the soldier's ability to perform their assigned MOS. Before a unit can properly train, they need to look at all capabilities, MOSs, and experience to ensure that they are maximizing their soldier's potential to meet the FORSCOM commander's readiness requirements. Placing these soldiers within these positions does not necessarily hold them back from promotion advancement. When a commander receives an incoming leader or soldier, they are placed in the unit based on the grade or position requirement. This places the next commander at a disadvantage due to re-training these personnel to the level at which they are assigned. This happens a lot to the artillery officers as some artillery officers attend the Command and General Staff College as a field grade officer with eleven years of experience as an artillerymen who only has one to two years of artillery positions within that time. The institutional Army is trying to correct this lack of proficiency but it still lacks the experience that the FORSCOM commander is directing in getting back to the fundamentals of all MOSs. Modularity of the Army BCTs has some commanders rushing to place soldiers and leaders into positions to meet the demands placed on them. As the transformation as a result of modularity changes, U.S. Army Training and Doctrine Command continually re-writes doctrine and regulations to ensure that the force sustains the capabilities set forth in the Army strategic readiness assessment to meet the appropriate readiness levels for unit proficiency and experience. These are gaged through metrics that commanders at all levels report every quarter to Headquarters, Department of the Army. Human Resources Command works with field commanders and soldiers to ensure that the right fit is achieved for both the soldier and the units. When

assigning personnel within a BCT, ensuring soldiers and leaders receive the development necessary from seasoned leaders within the formation, will ensure that the right people are placed in the right positions. Units train soldiers based on their METLs preparing them for how their particular unit functions. Commanders within those units determine what tasks that they will train on and assume risk on others due to time constraints placed on the units. Prior to OIF and OEF, all soldiers were tested bi-annually on Army basic skills to ensure that they meet mandatory individual skill requirements. The Army still has these tasks outlined in the *Soldiers Manual for Common Tasks* which are incorporated into the tasks based upon the METL tasks that the commander selects for his unit training plan but it is not training that is currently mandated in all units. It is training like this that keeps the experience amongst all soldiers regardless of MOS and duty location regardless of the mission of a particular BCT. In LTC Andrew T. Rendon's strategy research project titled "Modular Transformation: The Unintended Impacts on Leadership and Organizational Effectiveness," he discusses the modular transformation of a post-war era military under Army Chief of Staff, General Eric Shinseki and Army Chief of Staff, General Peter Schoomaker where the Army underwent major transformation in both physical and educational aspects resulting in insufficient time to meet modularity requirements resulting in modular transformation that was expedited at an alarming rate and scale resulting in catastrophic long-term consequences for the field artillery.<sup>25</sup> It is undetermined as to how downsizing the military affects the experience of the future Army. It is unknown if the right amount of experience has been retained. The gaps in experience within the Artillery Branch still affect how fire support is accomplished in support of maneuver.

The training the military has conducted during Force XXI with the 4th Infantry Division undergoing modularity transformation starting in the mid to late 1990s, the technological advances that were made to weapons and communications became the beginning of a better common understanding for a BCT commander.<sup>26</sup> As a result of this new technology, units were trying to get their hands on it in order to streamline operations and their effects on the enemy. This comes with a price as soldiers and leaders that are not receiving this training in the institutional Army had to receive this training when they arrived at their unit. Challenges with technology are that all soldiers using this technology need to understand it. It has a heavy reliance on field service representatives that provide technical support and are unable to be in the same location as the unit. Some of this training had forty-hour training requirements when new versions were issued and in some cases had up to ten-hour training requirements when new software updates were issued. Fire support struggled to use this technology to enhance its effectiveness in accuracy and timeliness. As a result, fire support trends at CTCs reflected delays in fire support and integration due to the amount of time it took to have the system working.<sup>27</sup> Commanders were now burdened with the amount of annual and bi-annual training required to maintain proficiency. While the Army of 2020 takes shape and gains more fidelity on budget impacts and manning cuts, the Army is required to meet the same responsibilities and conduct the same mission with fewer resources.<sup>28</sup> This concept has a close resemblance of what LTC Rendon was writing about in his strategic research project where the skills do not match the time available for new concepts while trying to operate on a more lean approach.<sup>29</sup> GEN Abrams focuses on moving the formation towards gaining MOS proficiency, placing leaders and soldiers into position only after

they have received the proper training and resources.<sup>30</sup> BCT commanders with their FSCOORD carry the responsibility in ensuring that personnel within their BCT receive the necessary training while developing potential through realistic home station training.

### Summary

The command emphasis that is needed to ensure military capabilities meet the science and technology advances requires time and resources to meet the needs of the experience gaps of fire supporters. The CTCs take the lessons learned from adversaries and how they employ their forces and incorporate this into training scenarios to evaluate units on the training they conducted prior to their rotation. Operational and institutional training that is conducted combined with leader development are the cornerstone to ensure that soldiers and leaders stay current with Army doctrine and policies. It is the BCT's responsibility to ensure that individual and collective tasks are trained according to MOSs that are defined in the combined arms strategy. As units understand their METLs, commanders and staff determine the time and resources available, tailor their unit training plan to meet the commander's guidance to ensure that the unit trains to the readiness level according to the phase in which they are currently operating. The challenge of balancing a deployment METL if applicable against Army training minimums along with garrison requirements is a challenge on which some commanders find themselves having to assume risk. The CTC trends show that staffs struggle to plan fires support into maneuver operations using the MDMP where they fail to properly integrate organic BCT DS assets while incorporating external attached assets in support of maneuver. The result of improper staff synchronization during MDMP is reflected in the products that they produce which fire supporters use to execute during operations.

Fire supporters struggle to integrate themselves into operations and subordinate (company) commanders are left with delayed effects from the artillery warfighting function forcing commanders to use their assigned weapon systems to meet the commander's objectives. Fire supporters are then utilized in other capacities due to manning shortfalls and do not allow for training in their assigned MOS during training events which were identified during recent CTC rotations. This continues to expand the experience gaps of artillery leaders and soldiers where they are left managed by the BCT FSCOORD to ensure that they remain relevant throughout that cycles training events. According to the CTC trends, there is definitely not a lack in command emphasis. Almost all BCT commanders understand the importance of fire support to enable maneuver.<sup>31</sup>

BCT commanders and staff are allowed another opportunity to incorporate fire support and all other assets into the fight through the targeting process. The targeting process is another way that the BCT commander and staff have the ability to continually plan centralized operations to allow decentralized execution for future operations. The experience gaps and time available for training hinder the staff's ability to conduct the targeting process to allow the staff to plan the right effects with the right resources against the BCT commander's guidance to meet their objectives. In the articles mentioned previously in this thesis, senior leaders in the artillery and maneuver see the need to correct these deficiencies in experience, training, and use of fire supporters to reverse the atrophying skill sets that delay the effects necessary to support maneuver. This rings especially true based on the four case studies spanning over two decades of CTC rotations where the same issues with different units continue to trend in the same direction.

In chapter 5, the author uses the Army Training Network using the Combined Arms Training Strategy to determine possible solutions to assist BCT and subordinate commanders in reversing the CTC trends. Using the example of a long range training calendar for a typical Army BCT and AR 350-1, the author uses illustrations and tables to show how a unit can develop a unit training plan that integrates fires into maneuver training in preparation for BCT intensive training cycles at home station in preparation for their mission readiness training exercise at a CTC. Illustrations will also be developed to show typical training minimums of fires support personnel that will inform BCT commanders and staffs on the necessary individual and collective training tasks that need to be accomplished to meet the deficiencies identified at CTCs. Lastly in the conclusion portion of chapter 5, the author provides recommendations to BCT commanders and staffs to reduce coordination measures and compare them to how other adversary military forces employ fires in support of their maneuver. This will allow BCT and subordinate commanders the ability to understand how the fires system can be employed when the right amount and area of command emphasis, experience, and training are utilized.

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<sup>1</sup> Michael Grice, "Resuscitating the King," *Marine Corps Gazette* 92, no. 10 (October 2008): 24, quoted in COL Michael J. Hartig, "The Future of the Field Artillery" (Strategy Research Project, U.S. Army War College, Carlisle Barracks, PA, 23 February 2010), 28.

<sup>2</sup> Headquarters, Department of the Army, Army Doctrine Reference Publication (ADRP) 6-0, *Mission Command* (Washington, DC: Government Printing Office, May 2012), 2-7.

<sup>3</sup> Headquarters, Department of the Army, Army Techniques Publication (ATP) 3-09.23, *Field Artillery Cannon Battalion* (Washington, DC: Government Printing Office, September 2015), 3-7.

<sup>4</sup> Headquarters, Department of the Army (HQDA), Army Techniques Publication (ATP) 3-09.42, *Fire Support for the Brigade Combat Team* (Washington, DC: Government Printing Office, March 2016), 6-3.

<sup>5</sup> Joint Readiness Training Center, Fire Support Division, “Fires Trends” (PowerPoint Presentation, Ft. Polk, LA, 2016), slide 5.

<sup>6</sup> HQDA, ATP 3-09.42, 2-7.

<sup>7</sup> Center for Army Lessons Learned, CALL Newsletter No. 99-11, *An Artillerization of the Military Decision Making Process (MDMP): Tactics, Techniques, and Procedures* (Ft. Leavenworth, KS: U.S. Army Training and Doctrine Command, August 1999), 3.

<sup>8</sup> Joint Readiness Training Center, Fire Support Division, “Fires Trends,” slide 4.

<sup>9</sup> CG, FORSCOM, CTG – FY 2017, 2.

<sup>10</sup> Commanding General, U.S. Army Forces Command, Memorandum for Commanders, Major Subordinate Commands/Units Reporting Directly to FORSCOM, Army National Guard Bureau, Office, Chief Army Reserve, and Army Service Component Commands, Subject: FORSCOM Command Training Guidance (CTG) - Fiscal Year (FY) 2018, Department of the Army, Headquarters, U.S. Forces Command, Ft. Bragg, NC, 24 March 2017, 2. Hereafter referred to as CG, FORSCOM, CTG – FY 2018.

<sup>11</sup> Grubbs, Haas, and Reynolds.

<sup>12</sup> Headquarters, Department of the Army (HQDA), Army Regulation (AR) 350-1, *Army Training and Leader Development* (Washington, DC: Government Printing Office, August 2014), 119.

<sup>13</sup> Ibid.

<sup>14</sup> CG, FORSCOM, CTG – FY 2018, 1.

<sup>15</sup> Ibid., 2.

<sup>16</sup> Ibid.

<sup>17</sup> Headquarters, Department of the Army, Department of the Army Pamphlet 350-58, *Training, The Army Leader Development Program* (Washington, DC: Government Printing Office, March 2013), 2.

<sup>18</sup> Ibid., 6.

<sup>19</sup> Center for Army Lessons Learned, Joint Readiness Training Center, National Training Center, CALL Newsletter No. 03-16, *Fires in the Close Fight, Volume II, Focused Rotations – Observations: Tactics, Techniques, and Procedures* (Ft. Leavenworth, KS: U.S. Army Training and Doctrine Command, July 2003), 1.

<sup>20</sup> HQDA, ATP 3-09.42, 5-9.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> CG, FORSCOM, CTG – FY 2018, 8.

<sup>24</sup> Ibid.

<sup>25</sup> LTC Andrew T. Rendon, “Modular Transformation: The Unintended Impacts on Leadership and Organizational Effectiveness” (Strategy Research Project, U.S. Army War College, Carlisle Barracks, PA, March 2013), 4.

<sup>26</sup> Author’s personal observations and experiences from period of service during that time.

<sup>27</sup> Joint Readiness Training Center, Fire Support Division, “Fires Trends,” slide 4.

<sup>28</sup> LT Brandon Smith, *Military Review* 94, no. 4 (July-August 2014): 19, accessed 5 May 2017, [http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview\\_20140831\\_art001.pdf](http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20140831_art001.pdf).

<sup>29</sup> Rendon, 10.

<sup>30</sup> CG, FORSCOM, CTG – FY 2018, 1.

<sup>31</sup> Joint Readiness Training Center, Fire Support Division, “Fires Trends.”

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

The CTCs identified deficiencies in units in experience, home station training, and commander's guidance for fires. The deficiencies in experience have shown that fire supporters within maneuver units are often times not utilized within their assigned MOS. They are often used as additional company operations cells to assist the commander in understanding the common operating picture within their organization. The same holds true in most cases with the artillery officers. They are used in the same capacity as the soldiers at the lieutenant's grade and in rare cases captains are assigned across the Army as liaison officers. These artillery soldiers and officers are left undeveloped, un-mentored, and are not learning the critical aspects that they need when they are assigned to a fire support or artillery position. Institutional level leaders in the Army have identified this and are attempting to fill the experience gap and loss in training through professional military education at the Non-Commissioned Officer Education System, Field Artillery Captains Career Course, and the Command and General Staff College. However, at this point in the artillerymen's career it may be too late to fill this void due to force requirements and vacancies. The training of these artillerymen needs to be corrected at the lowest levels, commanders need to ensure that they hold these artillerymen to the standard and the enforcement of positioning of these artillerymen needs to have the oversight of the BCT Field Artillery Battalion Commander (FSCOORD) and his Command Sergeant Major. Until this happens, the artillerymen's skill sets will continue to atrophy the first line issue with fire support and optimizing fires at the BCT level will never be solved.

After artillerymen are properly assigned, home station training is the next challenge that these artillerymen and the commanders face. How do you reestablish the fundamentals in a soldier that has never performed their MOS? There are a multitude of resources available to leaders and commanders, for example the ATP 3-09.42, *Fire Support for the Brigade Combat Team*; ADP 3-09; Army Doctrine Reference Publication (ADRP) 3-09, *Fires*; Field Manual (FM) 3-09, *Field Artillery Operations and Fire Support*, and various other sources like the Soldier Training Publication (STP) 6-13F14-SM-TG (which is no longer available). ADPs, ADRPs, and FMs provide the doctrinal way to employ fire support while ATP 3-09.42 provides techniques for the BCT but only supports the previously mentioned ADPs, ADRPs, and FMs. The Combined Arms Training Strategy (CATS) determines the tasks artillerymen must train on to meet proficiency based on the size and type of unit according to the unit's METL. The art and science behind planning home station training starts with the BCT commander's training guidance. This can be issued yearly, quarterly, and by event. The staff's role is turning the commanders' training guidance into something that meets the METL for the unit and the deficiencies of all MOSs within the BCT, especially low density MOSs. The staff's ability to understand the MOSs in the formation through the knowledge of experienced staff members will ensure that training supports the individual and collective needs of the unit. These collective tasks are not necessarily an operation, but support an assigned operation to meet the objectives of the operation. Throughout the fiscal year quarters, training is aligned to meet certain training objectives and events as the unit transitions from the reset phase of unit readiness to the train/ready phase and ends at the available phase of training where they will be assigned a mission to perform by higher. Through all

of this, how home station training time is managed is critical to ensuring the characteristics of training are achieved. The training must be conducted in live, virtual (including gaming), and constructive training environments to replicate the operational environment conditions, much like what a CTC aims to achieve.

The command emphasis applies to training and to the operations that artillerymen are asked to perform. Previous trends from CTCs identified that issues have arisen from the guidance given for fires. This guidance has been observed as being unclear, non-existent, and lacking the necessary details for subordinate fire supporters to plan to support the commander's objectives. Combined with the lack of experience previously mentioned and the training deficiencies in MOSs, in most cases artillery leaders and planners would be able to fill this gap and still provide the necessary support to the maneuver commander. This is not just an artillery warfighting function problem, it applies to the other warfighting functions due to the insight needed in order to ensure that effects and enablers are used in the right time and space. As unfortunate as it may appear, subordinates in an organization tend to focus on what the commander focuses on. Guidance for planning is as important as guidance for fires during an operation. The commander's ability to focus the efforts of all individuals in the unit ensures that the right leaders are making the right decisions for their subordinates. If this does not happen, the BCT FSO and the BCT FSCOORD will need to take the BCT commanders' planning guidance and assist in translating that guidance into something that is useable by fires. This allows for synchronization and forces integration of assets to meet that guidance.

### Fires Training and Certification Recommendations

The training guidance for fires is necessary for the warfighting functions to start developing a plan to meet the BCT commander's guidance. This forces the warfighting functions to integrate during the MDMP where staffs update their running estimates to capture all the assets available. A staff's ability to understand the training level within the unit allows them to have a more defined running estimate from which they can plan future individual and collective tasks. The challenge that most units find that there is a gap in experience that can cause issues with planning and conducting the training during execution. During mission analysis, the staff will come together to brief the commander on what assets they have available. It is then that the BCT commander will issue his planning guidance to the staff and the subordinate battalion commanders and they will initiate planning to re-evaluate the unit's proficiency against the unit's METL.

Much like planning an operation, units that are effective in achieving their METL, plan their training as if it were an operation. Before any operation or training can occur, the unit must conduct the necessary analysis to understand the level at which they are currently operating. Receiving guidance from the commander early and ensuring that it meets the needs of all members of the unit is critical for the commander's dialogue. Keeping the commander involved and informed ensures that the objectives are being met and allows the commander to leverage the staff in getting resources that may not be available. When training fire support personnel a commander cannot train these personnel based on their individual and collective tasks alone. The experience of all members in the unit, most importantly the leaders, is critical in ensuring that fire support is meeting maneuver needs. The integration of fire support begins with planning and continues

through the execution of training. Company level units and below focus on training cycles, while battalion units and higher focus on mission command. The challenge with this is that the two become disconnected and the exercise of mission command through the execution at the lower levels is not fully understood. The challenge is that not exercising these systems more frequently degrades the experience of the commander's staff and the integration of fire support. Using the top down bottom up approach, the ability to plan fires in support of maneuver is just as important as executing fires. The friction is a result of improper management of the fire supporters during training exercises, which causes delays, and in some cases confusion amongst the lower echelons when requesting this support. BCT and battalion FSOs receive their experience through training during planning exercises and command post exercises. These can come in the forms of virtual gaming, scenario based event crisis planning or even just going through MDMP. The certification of fire supporters should be an operation in which the commander's staff is involved. In most cases, the FSO is told to certify their fire supporters externally from the unit and have them ready for the next major training event.

Most units will conduct Combined Arms Live Fire Exercises (CALFEX) to certify the maneuver where the company maneuver commander is responsible for all aspects of the operation. This is usually a battalion led event with BCT oversight culminating with the BCT commander certifying their company commanders. This should also be applied to fire support. With the DIVARTY being re-instated, DIVARTY began conducting Battalion Artillery Readiness Test (BART) and Division Artillery Readiness Test (DART). These tests evaluate the firing elements and their support assets to ensure they are able to execute the support necessary to deliver fires in support of

maneuver. Battery commanders are responsible for conducting some of the same aspects as the maneuver commander during their CALFEX and they are certified in the same manner by the DIVARTY commander. The sustainment element within a BCT executes similar events like the BART, DART, and CALFEX with their culminating event being a company Live Fire Exercise. Fires supporters are often supporting these events but the certification is solely focused on maneuver, the gun line, or sustainment platoons. Any issues with fire support during these events are often overlooked and the fire supporters are sometimes forced to retrain. Fire supporters do conduct certification consisting of written exams, calls for fire certification, hands on training with their assigned equipment, and common tasks but these are usually staff driven, not commander driven. By incorporating the certifications that the fire supporters have to meet based upon their collective and supporting individual tasks and incorporating them into the BART, DART, Sustainment Live Fire Exercises, and CALFEX and actually making them part of the certification to include exercising the staff during these certifications to assist them in conducting command post training opportunities. Doing this would not require any additional resources. The standards would not change and soldiers and leaders would have the necessary oversight by BCT and DIVARTY commanders while exercising the FSOs at the company, battalion, and BCT with FSCOORD involvement. By balancing the evaluations of commanders with individual soldier performance forces the incorporation of fire support, mortars, and additional assets and allows for a more thorough emphasis by all leaders within the unit. This would not only allow relationships to become more developed between these levels of command but would allow these commanders to understand the status, training proficiency, and deficiencies of the entire

system including the mortars which are often put into the same position as the fire supporters. Leveraging all of this with the coordination of external evaluators that are properly trained and standards driven will also allow for a more thorough and honest assessment of an organization. Even though these evaluators are evaluating another unit this would be another opportunity to gain lessons learned and tactics, techniques, and procedures to continue to educate the force much like observer controllers at CTCs.

### Optimizing and Streamlining the Fires Process

Optimizing fires at the BCT level to enable maneuver starts at the planning stages and carries the same weight as training. Without fire support, a maneuver unit has to expend more resources, train the soldiers within their units, and in some cases take additional time to meet their objectives. Fire support is more than calling for fire and adjusting munitions onto enemy targets. It involves effects placed onto an adversary to impose a commander's will to reduce, make ineffective, or alter their mindset to fight both lethal and non-lethal. Maneuver often places control measures to deconflict forces, rapidly facilitate actions on the enemy, and to assign space to units operating within a particular area. The challenge with these control measures is that too many can cause friction and confusion slowing down the effects that are trying to be employed. Depending on what type of control measure being used for a particular operation, a commander and staff have to remain cognizant on whether the control measure is appropriate, that it is permissive or restrictive, and that it facilitates rapid execution of effects from all assets operating within that battlespace. The resulting friction does not streamline fires and degrades their ability in some cases to employ the BCT commander's assets.

One of the biggest challenges with fires is clearance of airspace. This primarily affects air-to-surface and surface-to-surface fires. Air-to-surface fires is the biggest challenge as there are multiple entities that use the air space that are not necessarily a part of a unit's mission. Control measures are established to deconflict and restrict the use of areas to allow assets to be employed in a particular area. At division level within the Army, they establish cells to manage the airspace in order to facilitate rapid execution of targets. The BCT has a similar cell which is smaller in size but lacks some functionality due to the amount of people within this cell that represent other forces that assist the commander much like in the division cell. The challenge for the BCT commander and his cell comes down to who is responsible to manage it. The BCT FSO is usually the person that is responsible for managing this cell but lacks the experience and the knowledge about the other systems and components. The Fires Center of Excellence at Fort Sill, OK offers courses that teach Brigade Aviation Element sections within BCTs how to integrate their systems into BCT operations allowing the commander to understand the air picture within their operational area. This in addition to the BCT fire support cell enables the commander to expedite both surface and air-to-surface fires.

Surface-to-surface fires are the next challenge for BCT commanders and are one of the most prominent identified during training. This delays effects in support of maneuver and degrades the trust from the maneuver commanders due to the amount of time needed to deliver these effects. Some of the identified challenges are from lack of fires products like fires concept of support where it describes how fires will support maneuver and the targets they will use to support operations for each phase. Normally fires cells can manage about twenty-five targets. In most cases units will plan as many as

one hundred targets in support of an offensive or defensive operation. This target saturation overloads their ability to employ fires and does not allow digital systems to track this number of targets for a particular BCT. This is all stemming from the OPTEMPO that a BCT operates at and how fast the dynamics change on the battlefield. Another factor is the coordination or control measures where commanders plan these measures to facilitate rapid execution of tasks by maneuver and artillery. Most of these are planned at the BCT level and some are directed by a division or higher unit. Making home station training as realistic against a near peer adversary as possible, units can best determine possible solutions to their force deployment in ensuring freedom of action. Allowing company echelon commanders the ability to plan how they will fight within their battlespace and determine what measures will be in place can assist in the rapid execution of targets through direct supporting assets. This assists these commanders in counter fire and prosecution of targets that are time sensitive and of high value. The BCT and the battalions still need to maintain some sort of control over the fight to allow the commander to make changes to the operation or force if necessary. The fires cell, BCT FSO, and the FSCOORD assist the commander in ensuring that the decisions made continue to support the operations without compromising the support needed.

Taking a closer look at the fires cells, the company fire support cell is one of the most prominent cells within a maneuver company. During OIF and OEF, artillery lieutenants were used to operate intelligence cells for the commander rather than planning and coordinating fires. Today, most maneuver commanders still carry this same thought process as they were serving alongside these artillery lieutenants and remember their company commander using these officers in this capacity. Breaking this mindset that a

company FSO should be with the commander, planning, integrating, and coordinating for assets to support his maneuver platoons is critical to getting fires back into the art of shaping the battlefield. Artillery lieutenants are taught how to plan and execute fires. The challenge is how they run a company fires cell to manage observers and to assist maneuver platoon leaders and the commander in employing fires and understanding the effects and timeliness that DS assets can bring to the fight. DS assets work directly for the BCT commander and in most cases are given to maneuver units based on their assigned role in the mission making them more responsive and in most cases an all-weather platform (artillery howitzers). Breaking the mindset of requesting external assets not only creates friction within the BCT due to the number of units operating at a particular time, but creates a vacuum with resources from the higher commander that will be giving these resources to the unit in need. The company FSO does not have a lot of experience and must become knowledgeable on how the commander thinks and operates in order to assist the commander in using the direct assets available that are more timely and have an established relationship in providing support. The training of fires cells at the company level and throughout the BCT allows the commander and his fire support elements the necessary understanding to employ fires to support maneuver.

Most units run fires academies to re-train the skills of their fire supporters. Currently there is no fires cell academy training available to fire support cells like there is at the Brigade Aviation Element cells. Fires cell training with the BCT mission command framework allows SOPs and reporting to meet the needs of the staff for future planning of assets integration in the BCT. This can be done through fires academies where training is focused on fire support and how to best establish oversight and execution of lethal and

non-lethal effects. The fires cells can work through planning aspects to include producing a scheme of fires and associated operation order products similar to fires concept of support to ensure that subordinate units understand how to interpret higher guidance when planning fires for their maneuver commanders. This training can be conducted in a classroom environment with all systems operating with subordinate fires elements operating in a field environment to stress the entire architecture of the fires system or in a virtual gaming aspect against an enemy to test systems and procedures. Fires training must be incorporated in all maneuver exercises during the fires training that is conducted during the normal training cycle that a BCT executes to exercise its employment. Fires training must be conducted before maneuver is ready to train at different levels. Fires training needs to be conducted in conjunction with maneuver training, and fires training needs to be conducted as an entire system repeatedly in order to work through the issues with responding to maneuver needs in a timely manner. When a unit is going to deploy or conduct an operation at a CTC is not the time for the fires system to be completely implemented for the first time. It must be exercised frequently throughout the year and completely integrated at all times with maneuver.

#### Reversing Fires Support Trends at the BCT Level

One of the number one complaints about fire support is the lack of knowledge of how to plan fires and execute fires. One reason behind this is that fire supporters are not conducting home station training properly. Another reason is that fire support personnel lack the experience necessary to plan and execute fires. Fire support personnel have to be used in their assigned MOS capacity. Without this, experience and development needs of these fire support personnel will not be utilized to ensure that experience is gained. This

is not true for all units across the Army. However, for the last two decades, many senior leaders, CALL, CTCs, and many maneuver commanders have recently started to take a hard look at fires support. However, are they looking in the right place or understanding properly why these problems continue to persist even after two decades of combat experience in OIF and OEF? Some of the aforementioned problems do correct themselves within units and then appear in others. This could be due to the science and technology upgrades to equipment through new equipment fieldings, experienced soldiers and leaders leaving the military, or budget constraints where some units do not receive as much funding as others.

Taking the institutional Army training, keeping that foundation of knowledge received, and fostering growth and development within individuals is hard to do. It is okay to have to re-learn your MOS but at whose expense? All soldiers and leaders cannot graduate beginning and intermediate institutional training without meeting minimum MOS requirements. When these soldiers and leaders arrive, most are put through a certification program where they are given many books to read, maybe conduct some training depending on the operational tempo and before you know it years have gone by and the institutional level of knowledge has been lost. How can this be reversed?

Training and evaluations must mimic institutional standards at home station. Fighting the nation's wars is serious business. The necessary time must be spent, even though some might think it is their personal time. Their personal time is re-instated when they are certified to provide the necessary functions that they were sworn to perform, their MOS. Giving examinations of their MOS and for all warrior skill tasks at least twice a year will ensure that these soldiers and leaders are spending the necessary time to be successful on

these examinations. Others do not take this as seriously, but that is okay. Some people join the military for education funding or personal reasons. They should be treated just as fairly as the soldiers and leaders that put in the extra time to pursue the expertise in their MOS. They will end their time in the military at their Expiration-Term of Service and choose another occupation. Fire support should not be any different. They receive almost the same testing criteria in the institutional Army as they do in the operational Army. Both of these institutions say it is due to home station training. If training and certifications similar to institutional level standards are being conducted at home stations, then leadership and experience must be lacking in the employment of fire support. Experience is hard to gain and hard to keep, but experienced is gained through training. Leadership is defined in ADP 6-22 as the process of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization.<sup>1</sup>

Proper training with communicated and understood standards is cornerstone. Leaders provide the resources and ensure that subordinates have exactly what they need to be successful in everything that they do. The Army established guidelines that leaders must use when training and evaluating their soldiers. To meet this criteria set forth by the Army and keep soldiers and leaders current with the emerging doctrine, science, and technology, soldiers and leaders need to be adaptable and take the time necessary to meet the standards of these tasks. Once this is achieved, commanders need to continue assessing their subordinates through observations and subordinate leaders within their units. If commanders certified all leadership positions within their unit with an MOS skills test, this would give confidence to the commander that their leadership would be

able to train his/her soldiers and ensure that leaders remained relevant on emerging doctrine and training. Some units are already doing this with little success. Their challenge is from senior levels within the Army where the enforcement stops at certain levels. If necessary, commanders need to think of creative ways to enforce this through incentive-based options to promote esprit de corps within their unit without sacrificing the climate of the organization to continue to foster growth.

The personnel assigned to a unit are more important than the equipment the unit uses for performing their operations. Some commanders are operating understrength and have to use soldiers and leaders in other capacities. Some of these soldiers and leaders are hurt and unable to perform their assigned function within the unit and are waiting to heal to either separate from the Army or move back into their assigned MOS. The readiness of a unit is a challenge that commanders face on a daily basis. However, if using soldiers and leaders in capacities other than their assigned MOS, they still have a requirement to ensure that these soldiers and leaders are tested to maintain their proficiency and that they maintain that experience. This occurs while they continue to professionally and personally develop these soldiers and leaders. Placing soldiers and leaders in positions outside their MOS is needed in most cases but needs to be on a rotational basis to allow that soldier and leader the opportunity to perform their MOS within their prescribed warfighting function. This comes down to management of personnel to ensure that the nation's greatest resource is protected, trained, and equipped for whatever the future holds for them.

### Summary

Fire support personnel have extensive requirements that they have to maintain in order for them to provide support to maneuver. These fire support personnel have to manage assets while maintaining operational awareness to support the commander in meeting their objectives. This is a challenge with everything that these individuals have to perform and everything that a unit must accomplish that is given to them from higher Army commands in garrison and deployed. The requirements are going to stay and meeting these challenges is going to be a difficult task at times. Keeping the experience level within the unit and leveraging these individuals' increases in difficulty as the move occurs from the COIN environment to decisive action and planning against a near peer adversary. The training that conducted now will not only sharpen the experience of the junior soldiers and leaders but will allow senior leaders and soldiers the ability to leave a legacy that the nation will be proud of. It really is not as important as ensuring that leaders and soldiers remain ready for the task given through tough realistic training. The commanders' ability to monitor the readiness and proficiency of their unit is crucial to the personal and professional development of their soldiers. With the right command emphasis, training gap proficiency's can be corrected in a timely manner. The readiness and trends observed by CTCs in the failure of fire supporters needs the right commander's emphasis in order to fix the future fire support leaders. There really is no difference.

The institutional Army is continually adapting its curriculum to meet the needs of the force and the next threat. There are courses available to assist commanders in reversing these atrophying skill sets across this formation. The challenge is a budget-

constrained environment. It costs money to send these soldiers and leaders to this training. This needs to start within BCTs, across sister BCTs, and the installation. This training can be conducted at home station at a fraction of the cost. By leveraging senior artillerymen and maneuver leaders, home station training must have the same standards that institutional level provides in order to gain the necessary experiences in meeting the next uncertain threat. Training a unit's staff to plan operations is equally important. There are some installations that provide some training for leaders but not all installations have the resources to conduct this training for commanders. The Command and General Staff College teaches the MDMP to all of its field grade officers where in turn it is expected that they are able to lead this process when they arrive at their units. This works in practicality but in execution the whole staff needs to learn the process and the experience levels vary creating friction. All of the officers in a BCT staff and below have had experience with MDMP from the institutional Army. The challenge is that now these officers are working with non-commissioned officers that have little or no experience to include an understanding of what their role is in the process. These officers have never worked in a staff setting with trained officers representing each warfighting function until they arrive in the unit and lack the understanding of how to integrate with each other to provide solutions and recommendations to the commander. In closing, this can be solved in the same manner that fires support issues need to be solved by developing creative ways to conduct home station training through the experience that is within the unit and train to grow and develop these soldiers and leaders. Training is a commander driven

event, much like the operations process. When looked at and treated the same the emphasis and outcome become one.

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<sup>1</sup> HQDA, ADP 6-22, 1-1.

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