# The U.S. Army in Multi-Domain Operations

2028

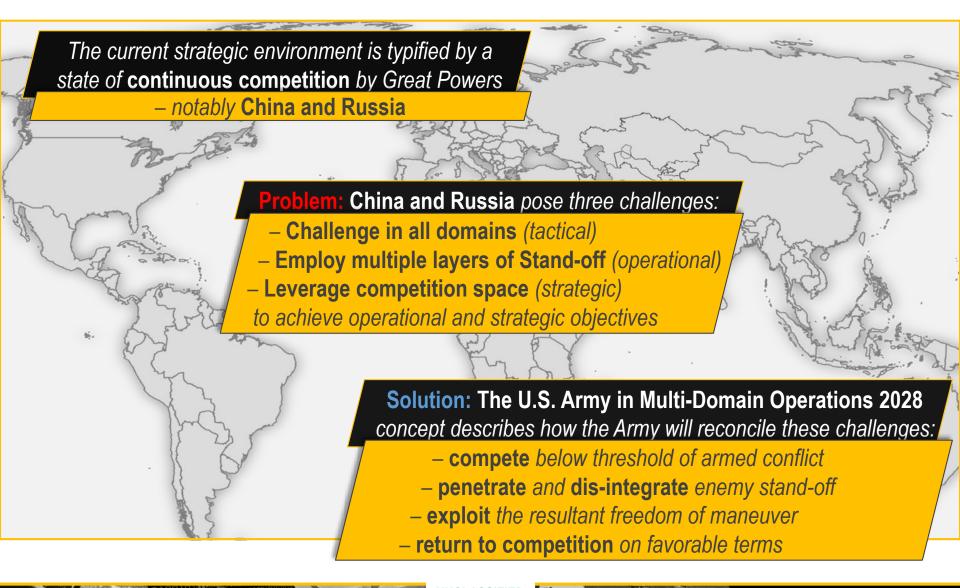


Base v7, 20 MAY 2019



# Multi-Domain Operations





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# **Operational Environment**



- Identifies four interrelated trends that shape the future Operational Environment
  - Contested in all domains
  - Increasingly lethal and hyperactive battlefield
  - Leverage Competition Space
  - Multiple Layers of Standoff



### Diluted deterrence

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## Threat Focus: China and Russia



- Focuses on near-peer threat (China and Russia) and aligns with NSS/NDS:
  - Provides conceptual solution to near-peers' operational approaches
  - Uses Russia as the tactical/technological pacing threat
  - Requires further analysis to address tactical and technical applicability of China
  - Accounts for proliferation of anti-access and area denial concepts and capabilities to non-state actors (Iran, North Korea, VEO)

The MDO concept assumes...Chinese and Russia concepts and force development are sufficiently similar for the Army to solve the problems presented by Russia in the near/mid-term and adapt to the changes China develops mid/farterm.

-TRADOC Pam 525-3-1, pg. 6

Enables and allows for "scoping" to a lesser threat

Internate



### The Problem: "Stand-off"





- among the U.S. and its partners in competition and reduces speed of recognition, decision, and reaction.
- Physical separation of the Joint Force in time and space
- Mid-Range Systems Short-Range Systems
- Functional separation of the Joint Force in capability

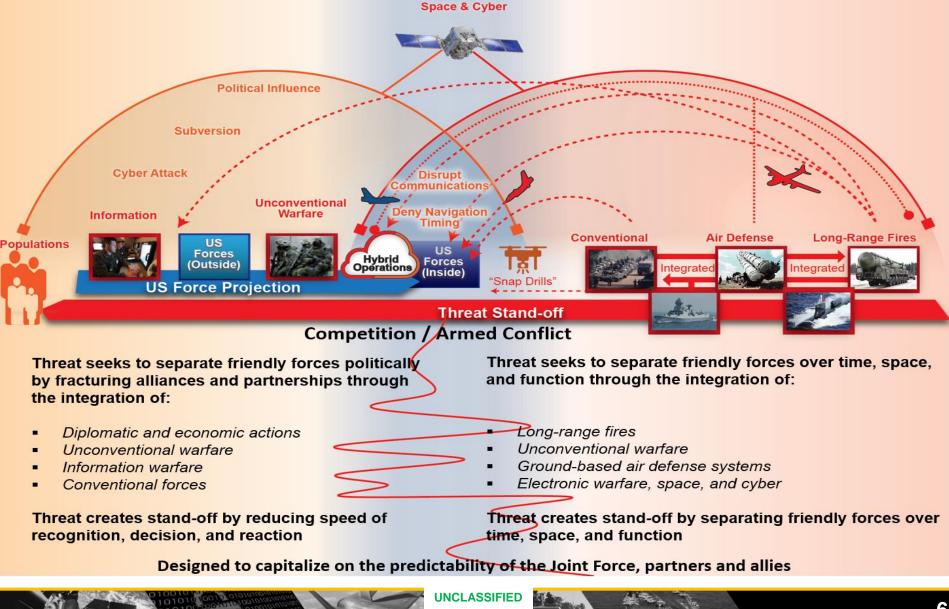
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Combined Arms Armies employ organic long-, mid-, and short-range systems to create operational and tactical stand-off that requires attacking functions rather than formations

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### Threats Create "Stand-off"

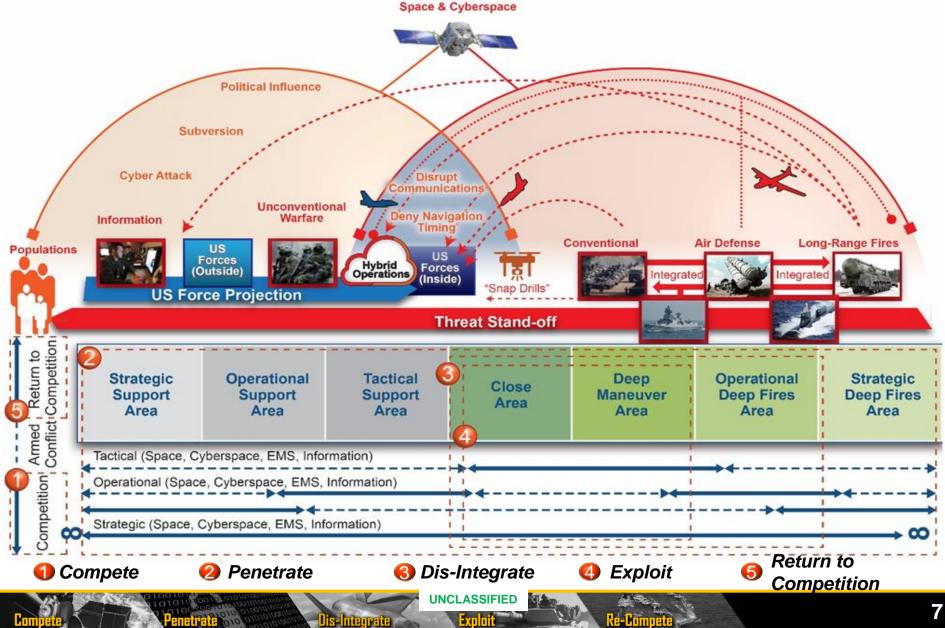


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# Multi-Domain Operations Defeat "Stand-Off"

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## **Central Idea**



Army forces, as an element of the Joint Force, conduct Multi-Domain Operations to prevail in <u>competition</u>; when necessary, Army forces <u>penetrate</u> and <u>dis-integrate</u> enemy anti-access and area denial systems and <u>exploit</u> the resultant freedom of maneuver to achieve strategic objectives (win) and force a <u>return to competition</u> on favorable terms.

### **Current Options**

Do nothing and concede competitor actions and readjust strategic objectives

Win a protracted conflict by regaining the operational initiative and defeating enemy forces

### MDO Capable Force 2028/2035 Options

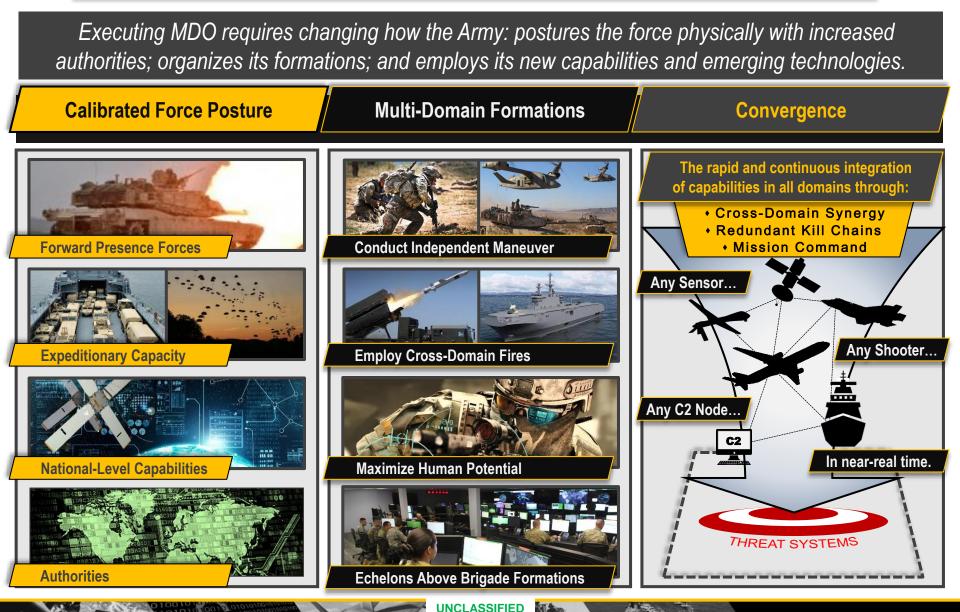
- Do nothing and concede competitor actions and readjust strategic objectives
- Expand the competitive space on favorable terms to deter enemy aggression (preferred method)
- Respond quickly to deny a fait accompli attack and achieve an operational position of advantage
- Win a protracted conflict by regaining the operational initiative and defeating enemy forces

s-Interrate



# **Tenets of Multi-Domain Operations**



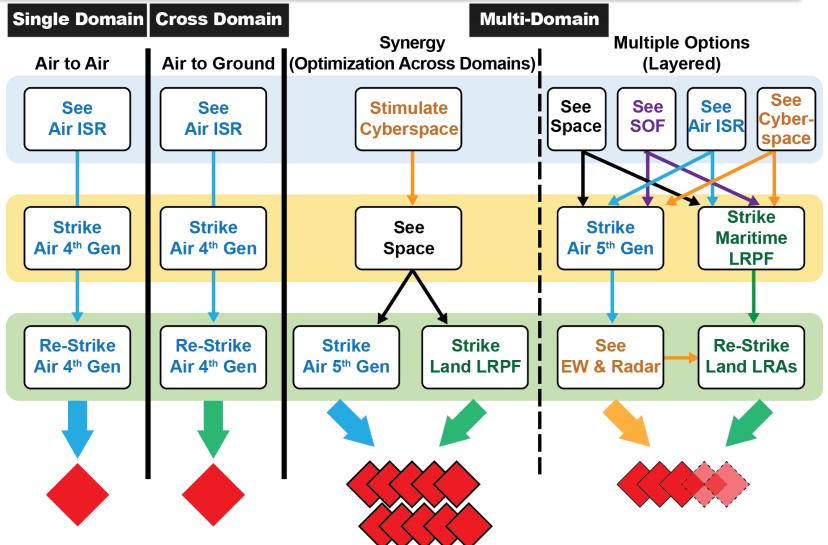


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## Convergence





Multi-domain operations today rely on episodic synchronization ... executing capabilities after days and weeks of synchronization ... in future operations against a peer threat it will require rapid and continuous integration ... integrating capabilities within hours.

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Penetrate

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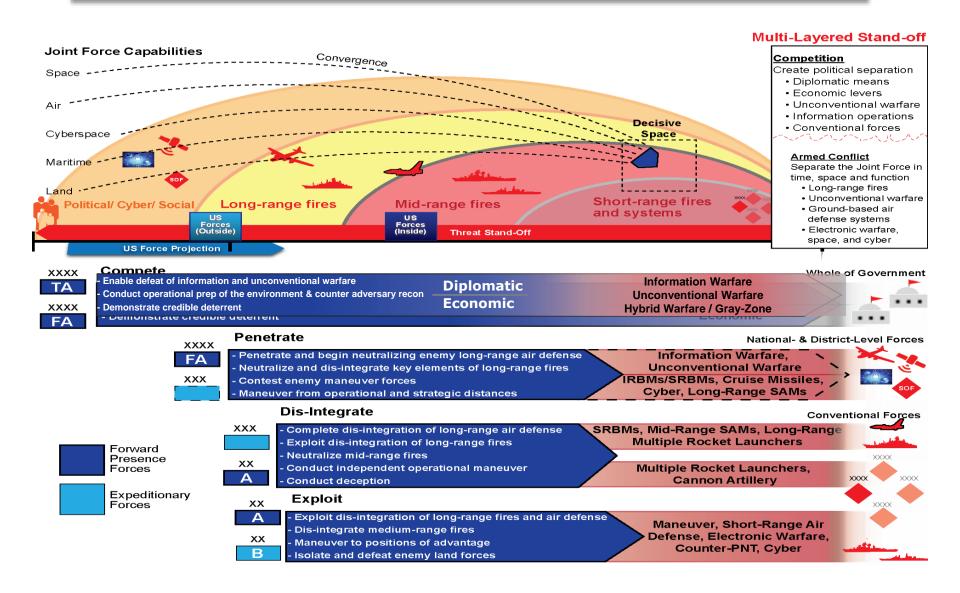
Re-Compete



### **Multi-Domain Operations Solution**

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# AirLand Battle and Multi-Domain Operations: What are the Differences?

| Element                    | AirLand Battle   | Multi-Domain Operations   |  |  |  |  |
|----------------------------|--|---|--|--|--|--|
| Operational<br>Environment | Single Pacing Threat (Soviet Union)  | Multiple Threats across the OE with similar operation approaches (near-peers)   |  |  |  |  |
| Focus                      | Formations (Second Echelon)  | Systems (Anti-Access and Area Denial Systems)   |  |  |  |  |
| Operational Context        | Forward postured force in prepared defense   | CONUS-based force executing offensive action through strategic and operational maneuver   |  |  |  |  |
| Central Idea               | Engage throughout the depth of the battlefield; defeat the Second Echelon  | Compete in all domains; when necessary,<br>penetrate and dis-integrate enemy anti-<br>access and area denial systems and exploit<br>the resultant freedom of maneuver to<br>achieve strategic objectives (win) and force a<br>return to competition |  |  |  |  |
| Domains                    | Land, Air (synchronization)  | Land, Air, Maritime, Space, Cyber (synergy)   |  |  |  |  |
| Echelon                    | Corps/Division and below   | Inter-Agency, Theater and below   |  |  |  |  |
| Phases                     | Phased operations in armed conflict  | Across competition continuum  |  |  |  |  |
| Concept                    | Rev and reverse an | All Domains Contested<br>Air<br>Cyber   |  |  |  |  |
| Compete Penetr             | his htemate  | Re-Compate 12   |  |  |  |  |



# Battlefield Development Plan (BDP)



A BDP is an ongoing analytical effort with a regularly updated document that:

- Operationalizes Multi-Domain operations in ways that can be modeled and tested.
- Conveys, in specific actionable detail, how future threat and friendly forces operate within an approved scenario in order to develop a series of "plays."<sup>1.</sup>
- Provides a net assessment<sup>2.</sup> that guides prioritization of challenges and opportunities for future force concept and capability development.

### Each BDP consists of three books:

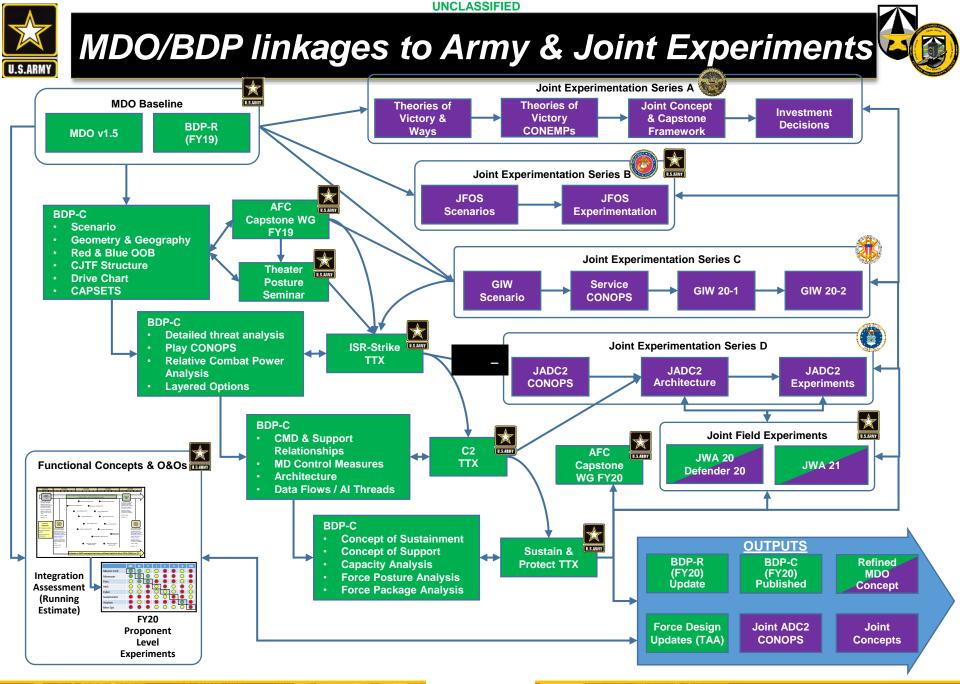
• Book 1: Threat Formations and Systems – "Red Forces"

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- Book 2: Capability Sets "Blue Forces"
- Book 3: Plays "Blue vs Red"

<sup>1.</sup> Plays – Multi-domain force packages and capability employment options that achieve specific effects

<sup>2.</sup> Net assessment – A multidisciplinary assessment process used to provide a comparative evaluation of the balance of strengths and weaknesses



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Understanding the Multi-Domain Operations Concept - Learning Curriculum



# Learning Facilitator's Guide





Purpose: To enable effective learning that leads to MDO Concept Expertise

### Presuppositions:

- 1. None of us is as smart as all of us (Blanchard, 2001).
- 2. A concept is an idea that requires continuous physical, virtual, and cognitive examination.
- 3. An operating concept is aspirational based on leadership vision.
- 4. There is no absolute truth in an operating concept; the best practitioners understand how the components can work together through active discussion.
- 5. Active discussion is about everyone sharing ideas; not demonstrating intellectual superiority.
- 6. When active discussion fails, revert to presuppositions #1-4.

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**Starting Point:** <u>TP 525-3-1 is the published Army Operating Concept (AOC)</u>. Learning the AOC presupposes that the learner *has read it* and agrees to approach MDO Concept Expertise learning by accepting the presuppositions.

### Reference

Blanchard, K. (2001). *High five – The magic of working together*. New York: William Morrow & Company





**Learning Curriculum:** Enables learning through UnderstandingTP 525-3-1 using Socratic approach of asking questions to achieve small group active discussions

**Overview:** Understanding the MDO Concept - Learning Curriculum:

□ Modules 1-5

- 1 Explain the future OE with respect to near-peer capabilities
- 2 Explain Stand-Off
- 3 Explain the five multi-domain (operational) problems
- 4 Describe how the three tenets address each of the multi-domain (operational) problems
- 5 Explain the 14 required capabilities and their relationship to the MDO framework and the tenets

□ Module 6 Overview (unclassified version presented in plenary)

- 6 Describe the purpose and utilization of the battlefield development plan (BDP) with respect to analysis and experimentation of the MDO Concept
- Discuss level of learning required to address questions in each of the modules
- Discuss what other critical thinking (supplementary) questions might aid in achieving the module competency
- □ Uses reference library documents to support active discussions

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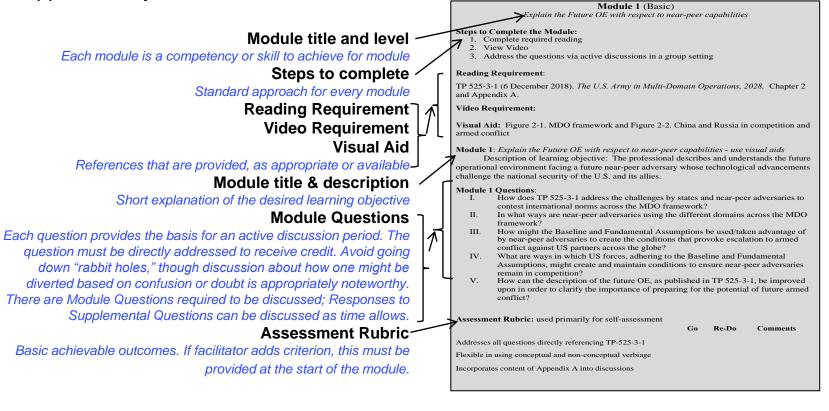


# **Learning Facilitator's Guide**



Learner Facilitator's role: To enable effective learning that leads to TP 525-3-1

- understanding by complying with these activities in the small group:
- □ Explains how each module enables learning within a small group environment
- □ Explains the specific module's learning objectives for the participants
- Facilitates discussion that addresses the required questions; as time allows, discusses Supplementary Questions.





### UNDERSTANDING THE MULTI-DOMAIN OPERATIONS CONCEPT

### **LEARNING CURRICULUM**

### (Two-Day Course)

### **Operationalizing the Future through Learning**



30 September 2019

UNITED STATES ARMY Directorate of Concepts, Futures and Concepts Center, Army Futures Command

#### **Executive Summary**

Expertise on the Multi-Domain Operations (MDO) Concept is achieved through a learning approach that attains common understanding of and thorough familiarity with U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1 (TP 525-3-1), The U.S. Army in Multi-Domain Operations, 2028. While commonly referred to as the MDO Concept, TP 525-3-1 is the Army Operating Concept and thus the foundational concept document for the future Army. The "Understanding the MDO Concept" learning curriculum emphasizes an adult learning approach through autonomous learning using available and researched material in order to understand, analyze, and apply the components of TP 525-3-1, the MDO Concept. By being prompted to address focused questions that enhance active inquiry and discussion about individual MDO Concept components, as well as the relationships among these components, the professional discovers insights based on what is published and available as references. What emerges through the Socratic approach is the competence to operationalize the components of the MDO Concept. Concept developers have found through best practices that active discussion about the relationship among the MDO Concept components enhances critical thinking. This approach develops hypotheses that, upon further examination through experimentation, result in insights and findings that better clarify how to achieve the Army Modernization Strategy's objectives to develop an MDO-Capable Force by 2028 and an MDO-Ready Force by 2035.

This learning curriculum supports a two-day unclassified course design based on small groups enabled by facilitators. This document includes facilitator training requirements.

#### Foreword

President John F. Kennedy, while visiting NASA for the first time in 1961, met a janitor and asked, "Sir, now what do you do at NASA?" to which the gentleman answered, "I'm helping put a man to the moon!"

We are on a path to "change the world." We have the greatest opportunity to influence the design of our future Army through our actions in the next several fiscal years. None of us is as smart as all of us, and because the MDO Concept is as necessary as it is complex, it is imperative that we each take professional ownership in understanding how we expect our Army to fight. We cannot afford to conduct business as usual because the window to influence the relevant future is rapidly closing. To understand our Army's vision for 2028, as the janitor at NASA did in his organization, we are each charged to thoroughly understand our Army Operating Concept, the Multi-Domain Operations Concept.

Completing this "Understanding the MDO Concept" learning curriculum in order to achieve MDO Concept expertise is your first step to developing the confidence and competence needed to remain on the path to change the world.

ERIC J. WESI

Lieutenant General, U.S. Army Director, Future and Concepts Center

#### Introduction

The U.S. Army Operating Concept (AOC) is the Multi-Domain Operations (MDO) Concept. It was published on 6 December 2018 as U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1 (TP 525-3-1), *The U.S. Army in Multi-Domain Operations, 2028*. Given the focus of the current Army Modernization Strategy to achieve an MDO-Capable Force by 2028 and an MDO-Ready Force by 2035, the Army Futures Command (AFC) requires both a creative and an efficient approach across the Army Modernization Enterprise (AME) to foster a thorough understanding of the contents of TP 525-3-1 in order to apply the foundational components of the MDO Concept when developing doctrinal, organizational, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) solutions to address the multi-domain operational problems. Understanding the MDO Concept also improves competency in internal and strategic communications.

Effective learning is about discovery followed by demonstration. The "Understanding the MDO Concept" learning curriculum presents questions to help the professional discover answers based on what is published and available as references, leading to developing approaches to operationalize MDO. Concept developers have found that addressing these questions to be most effective when preparing for presentations for a variety of audiences, when preparing to analyze data from a variety of experimentation events, and when preparing to examine possible DOTMLPF-P solutions to resolve the multi-domain problems.

There is no cookie-cutter approach to achieving a full understanding of the MDO Concept. This learning curriculum fosters understanding through active discussions of critical questions. The first five modules cover the foundational components found in TP 525-3-1. The next three modules develop knowledge and skills to operationalize the components of the MDO Concept and enable the professional to answer relevancy ("So what?") questions about the concept. The last two modules exercise skills that enable the professional to present the standard MDO Concept briefing.

The course design supports a two-day training course, and the course material included in this learning curriculum is unclassified. Visual aids and briefing charts are critical training resources, and prerequisite reading of TP 525-3-1 is mandatory. Small groups supported by facilitators are the foundation for active participation and discussion, and training material for facilitator preparation is included in this learning curriculum document.

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#### LEARNING CURRICULUM

#### Understanding TP 525-3-1 (MDO Concept)

to

#### Demonstrate Multi-Domain Operations (MDO) Concept Expertise

This learning curriculum is prepared by the

**Directorate of Concepts** 

**Futures and Concepts Center** 

**Army Futures Command** 

Fort Eustis, Virginia

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#### **Required Reading:**

TRADOC Pamphlet (TP) 525-3-1 (6 December 2018). The U.S. Army in Multi-Domain Operations, 2028

Strongly Suggested Reading:

National Defense Strategy

Army Modernization Strategy

Army Doctrine Publication (ADP) 3-0, Operations, October 2017

U.S. Army Futures Command (12 Jun 2019). Unpublished. U.S. Army Futures Command Guidance on Army Concept Development

All references in Appendix G, sections I and II, in TP 525-3-1

Videos: as available or presented in each module

#### Understanding TP 525-3-1 Overview

**Learning Purpose:** The purpose of this "Understanding the MDO Concept" curriculum is for the professional to develop the overall competency of *Multi-Domain Operations (MDO) Concept Expertise*. Achieving this competency reflects the professional's knowledge, skills, and abilities to present the basic premises on how U.S. Army forces, as part of the Joint Force, will militarily compete, penetrate, dis-integrate, exploit, and re-compete with our adversaries in a future operational environment (OE).

**Learning Description:** This learning curriculum does not ascribe to perfunctory learning. This TP 525-3-1 Understanding curriculum provides a logical series of learning modules that enable the professional to demonstrate levels of expertise in the content of TP 525-3-1, *The U.S. Army in Multi-Domain Operations, 2028.* MDO Concept Expertise is achieved by completing each of the modules in sequence by studying the text material and answering the module questions. To enhance learning in a group setting, each of the 10 modules include questions that guide critical thinking and active discussion. Active discussion is intentional as the primary learning approach to be confident and competent in understanding, analyzing, evaluating and then creating understanding to others when presenting the U.S. Army Operating Concept (AOC).

**Learning Preparation and Delivery:** Professionals must read TP 525-3-1 prior to engaging in small group discussions. This curriculum is intended for self-preparation followed by facilitated small group discussion sessions in which groups of five or six are lead through each module. The facilitator's role is to manage the time, discussion framework and focus, and the opportunity for each participant to address each question.

**Understanding TP 525-3-1 Learning Objectives:** Upon completion of this "Understanding the MDO Concept" learning curriculum, each professional will have developed the necessary skills and knowledge required to:

- 1. Review, interpret, and critique TP 525-3-1, The U.S. Army in Multi-Domain Operations, 2028;
- 2. Assist others in understanding the components of the MDO Concept;
- Identify and discriminate between the variety of perspectives brought by professionals at different levels of experience, knowledge, and exposure to how the U.S. Army currently operates and how the U.S. Army intends to operate in the future;
- 4. Assist in the analysis and/or application of the MDO Concept components across the width and depth of experimentation efforts that influence the Army Modernization Strategy; and
- 5. Develop a strategy, protocol, and thought process when presenting aspects of the MDO Concept to a variety of audiences.

#### Implementation Guide

**Course Activities and Assignments:** The learning curriculum is organized into 10 modules. Each module provides **Steps to Complete the Module** with specific reading requirements, visual aids, required questions to address, and an assessment rubric to guide one's progress.

Each module's questions assist in learning what is written in TP 525-3-1. More importantly, the questions require the professional to exercise critical thinking about the components of the MDO Concept. By design, the questions intentionally challenge the professional to do more than simply read in order to understand the components within TP 525-3-1. The professional, through understanding, applying, analyzing, evaluating, and creating meaning of the MDO Concept components fashioned by these questions, learns in order to better analyze, apply, and explain the components of the MDO Concept.

**Planning**: 6 weeks prior to scheduled "Understanding the MDO Concept" training Receive nominations for participants Schedule auditorium and small group discussion rooms Small group discussion rooms: 5-6 participants and 1-2 facilitators\*

**Preparation**: 3 weeks prior to scheduled "Understanding the MDO Concept" training Provide read ahead packets to participants

Read Ahead: "Understanding the MDO Concept" Learning Curriculum; Cross-reference Spreadsheet; MDO Concept Briefing v7, 20 May 2019; Frequently Asked Questions (FAQs)

Select and Train Facilitators\*

**Execution**: Scheduled for 2 days

Day 1

0800-0945: (Plenary) Welcome, Opening Remarks, Schedule Overview, MDO Concept Video, MDO Concept Presentation (MDO Concept Briefing v7, 20 May 2019)

1000-1700: (Small Groups) Modules 1-5

#### Day 2

0800-0900: (Plenary) Battlefield Development Plan (BDP) Overview, Module 6 0900-1400: (Small Groups) Modules 7-10 1400-1600: (Plenary) Modules 9 and 10 Presentations\*\* 1600-1700: (Plenary) After action review (AAR)

\* Facilitator Selection and Training. Facilitators for small group discussion are selected with sufficient time for each to understand their roles and responsibilities *before* small group facilitation training occurs. One critical requirement is that each selected facilitator must have read TP 525-3-1 before facilitator training begins, and the selectee completes the small group facilitator training prior to facilitating small group discussions. See Appendix B.

\*\* Presentations may be done individually by each member in a small group or collectively by each small group with members briefing different parts of the MDO Concept Briefing. If the latter occurs, each small group member briefs an additional slide that explains the application of his or her respective functional or expertise area to the MDO Concept.

#### Module 1

Explain the future operational environment (OE) with respect to near-peer capabilities

#### Steps to Complete the Module:

- I. Complete required reading and watch video
- II. Support explanation of visual aids using specific sections in required reading
- III. Address the questions via active discussions in a group setting

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapter 2 and Appendix A.

Video Requirement: Multi-Domain Operations, Overview

**Visual Aids:** TP 525-3-1, Figure 2-1, *MDO framework*, and MDO Concept briefing, slides #3 and #4;



Slide #3: Operational Environment

Slide #4: Threat Focus: China and Russia

### **Competency Module 1:** Explain the future OE with respect to near-peer capabilities – use visual aids

Description of the module's learning objective: The professional describes the future operational environment while facing a future near-peer adversary whose technological advancements challenge the national security of the U.S. and its allies. Using visual aids, explains how the interrelated trends shape the future OE, how the future OE influences the trends, and describes how the multiple threat foci align with the National Security Strategy (NSS) and the National Defense Strategy (NDS).

#### Module 1 Questions:

- 1. How do our near-peer adversaries operate across the domains to contest international norms? What are some facts and assumptions related to these acts?
- 2. In what ways are near-peer adversaries using the different domains across the MDO framework?
- 3. How might the U.S operate across the domains to prevail over our adversaries in competition in order to create conditions favorable to the U.S. and its partners?

#### Supplemental Questions:

- 1. Based on your functional expertise, how can the description of the future OE, as published in TP 525-3-1, be improved upon in order to clarify the importance of competition and preparing for the potential of armed conflict?
- 2. How does TP 525-3-1 address the challenges by states and near-peer adversaries to contest international norms across the MDO framework?
- 3. How might the Baseline and Fundamental Assumptions be used/taken advantage of by near-peer adversaries to create the conditions that provoke escalation to armed conflict against U.S. partners across the globe?
- 4. What are ways in which U.S. forces, adhering to the Baseline and Fundamental Assumptions, might create and maintain conditions to ensure near-peer adversaries remain in competition?

#### Assessment Rubric: Used primarily for self-assessment.

|   | Go | Re-Do | Comments |
|---|----|-------|----------|
| Addresses all questions directly referencing TP-525-3-1.            |    |       |          |
| Uses specific conceptual verbiage when describing near-peer threat. |    |       |          |
| Incorporates content of Appendix A into discussions of adversaries. |    |       |          |

#### Module 2

Explain stand-off

#### Steps to Complete the Module:

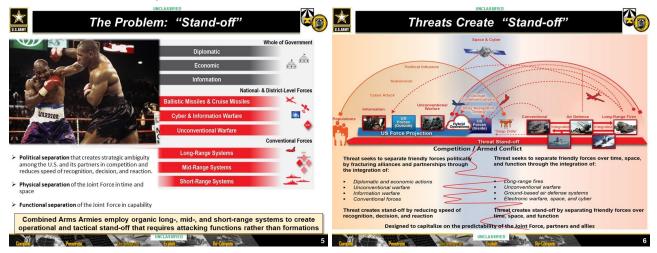
- I. Complete required reading and watch the video
- II. Support explanation of visual aids using specific sections in the required reading
- III. Address the questions via active discussions in a group setting

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapters 2 and 3 and Appendix C.

Video Requirement: Multi-Domain Operations, Overview

**Visual Aids:** TP 525-3-1, Figure 2-1, *MDO framework*, Figure 2-3, *Adversary's layered stand-off*, Figure 3-2, *Converging capabilities to generate cross-domain synergy and layered options*; MDO Concept briefing, slides #5 and #6



Slide #5: The Problem: "Stand-off"

Slide #6: Threats Create "Stand-off"

#### **Competency Module 2:** Explain stand-off – use visual aids

Description of the module's learning objective: The professional describes the concept of stand-off across the physical, virtual, and/or cognitive dimensions. Using visual aids, explains the layered challenges adversaries present during competition and armed conflict, and explains how U.S. forces must take advantages of adversaries' systemic vulnerabilities and weaknesses.

#### Module 2 Questions:

- 1. How does the adversaries' layered stand-off, as explained in chapter 2 and depicted in slides #5 and #6, present the ground commander with both challenges and opportunities to disrupt and defeat a near-peer adversary?
- 2. Explain stand-off at the tactical, operational, and/or strategic levels.
- 3. How is defeating Russia's stand-off potentially achieved in competition by using the adversary's systemic vulnerabilities and dependencies within the MDO framework as depicted in TP 525-3-1, Figure 2-1 and described in Appendix C?

#### Supplemental Questions:

- 1. How is defeating Russia's stand-off potentially achieved in armed conflict, and return to conflict by using the adversary's systemic vulnerabilities and dependencies within the MDO framework as depicted in TP 525-3-1, Figure 2-1 and described in Appendix C?
- 2. How can focusing alone on stand-off against near-peer adversaries be both strengths and weaknesses when addressing stand-off against other threats in the future OE?
- 3. What are the considerations for effective convergence as depicted in TP 525-3-1, Figure 3-2 and described in paragraph 3-3.d. that Army forces need to address at echelon during competition, armed conflict, and the return to competition in order for commanders to create and exploit windows of superiority that are either or a combination of physical (e.g., usage rates), virtual (e.g., temporal), or cognitive (e.g., planning) dimensional capabilities in order to achieve stand-off?

#### Assessment Rubric: Used primarily for self-assessment.

|   | Go | Re-Do | Comments |
|---|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1.  |    |       |          |
| Uses specific conceptual verbiage when describing Stand-off.  |    |       |          |
| Uses specific conceptual verbiage when describing<br>capabilities used when applying convergence during<br>competition or armed conflict against adversary's<br>vulnerabilities and to impose complexity on enemy's<br>command and control systems. |    |       |          |
| Incorporates content of Appendix C into discussions.  |    |       |          |

#### Module 3

Explain the five multi-domain (operational) problems

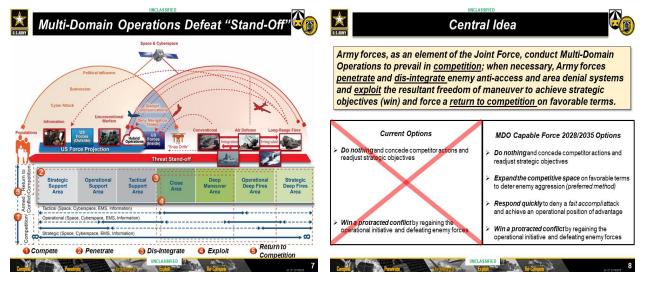
#### Steps to Complete the Module:

- I. Complete required reading
- II. Support explanation of visual aids using specific sections in the required reading
- III. Address the questions via active discussions in a group setting

#### Reading Requirement:

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapters 2 and 3; Appendices C and D.

**Visual Aids:** TP 525-3-1, Figure 3-1, *Problems superimposed on the MDO framework*; MDO Concept Briefing, slides #7 and #8



Slide #7: Multi-Domain Operations Defeats "Stand-off"

Slide #8: Central Idea

#### Competency Module 3: Explain the five multi-domain (operational) problems

Description of the module's learning objective: The professional describes the five multidomain (operational) problems with emphasis on how Army forces, as part of the Joint Force, help to achieve overall strategic objectives. Using visual aids, explains each of the five multidomain (operational) problems that span the MDO framework, explaining how each of the five multi-domain (operational) problems can exist simultaneously across different areas, and how the Army, in executing its four enduring strategic roles (prevent conflict; shape the security environment; prevail in large-scale combat operations; and consolidate gains) help achieve U.S. strategic objectives articulated in the *National Defense Strategy*.

#### Module 3 Questions:

- 1. How must the Joint Force, as depicted in TP 525-3-1, Figure 3-1, address the five multidomain (operational) problems across the MDO framework?
- 2. How do Army forces, as an element of the Joint Force and in its four enduring strategic roles, address the five operational problems at echelon in order to achieve positions of advantage that defeat the enemy through maneuver?

#### **Supplemental Questions:**

- 1. How would information environment operations (IEO), synchronized with informationrelated capabilities (IRC) in concert with operations and fully integrated into the planning and execution of joint targeting process, directly support opening and exploiting windows of superiority during competition and when returning to competition after armed conflict?
- 2. How would IEO, synchronized with the IRCs in concert with operations and fully integrated into the planning and execution of joint targeting process, need to directly support and exploit windows of superiority during armed conflict?
- 3. What are the considerations the Joint Force must apply when planning MDO in dense urban terrain (DUT) with respect to the effects of the characteristics of DUT when addressing the five operational problems?

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1. |    |       |          |
| Uses specific conceptual verbiage when explaining the    |    |       |          |
| five multi-domain (operational) problems.                |    |       |          |
| Incorporates content of Appendices C and D into          |    |       |          |
| discussions.   |    |       |          |

#### Module 4

Describe how the three tenets address each of the multi-domain (operational) problems

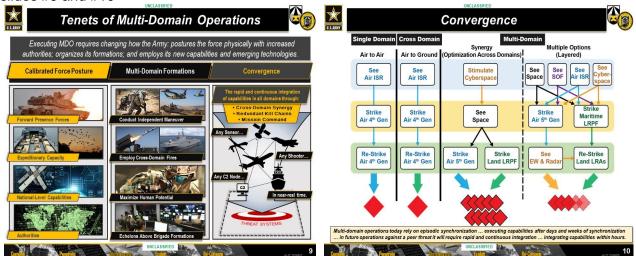
#### Steps to Complete the Module:

- I. Complete required reading
- II. Support explanation of visual aids using specific sections in the required reading
- III. Address the questions via active discussions in a group setting

#### Reading Requirement:

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapters 2 and 3; Appendix D.

**Visual Aids:** TP 525-3-1, Figure 3-4, *Competition,* and Figure 3-5, *Penetrate and dis-integrate anti-access and area denial systems; exploit freedom of maneuver*, MDO Concept briefing, slides #9 and #10



Slide #9: Tenets of Multi-Domain Operations

Slide #10: Convergence

**Competency Module 4:** Describe how the three tenets address each of the multi-domain (operational) problems

Description of the module's learning objective: The professional describes the three tenets of the MDO Concept that are used to address solutions to the five multi-domain (operational) problems. Each tenet is described independently, as well as mutually reinforcing when addressing solutions that may solve the five multi-domain (operational) problems. The explanation of convergence must include advantages over single-domain alternatives through cross-domain synergy and layering of options across domains, as well as the expansion of mission command to enable initiative and convergence at echelon through calibrated force posture and multi-domain formations.

#### Module 4 Questions:

- 1. How are the three tenets mutually reinforcing across the MDO framework?
- 2. Under the tenet of convergence, how will cross-domain synergy and layering options of capabilities by the Joint Force complicate the enemy's attempts to conceal its center of gravity, create and foster conditions favorable to U.S. Army mission command, and enable multi-domain command and control (C2) to stimulate-see-strike or see-strike combinations against the adversary's vulnerabilities?

#### Supplemental Questions:

- 1. How do the principles of convergence apply and vary across echelons (Theater Army to Brigade) during competition (using examples from TP 525-3-1, section 3-5), armed conflict (using examples from TP 525-3-1, sections 3-6, 3-7, and 3-8), and return to competition (using examples TP 525-3-1, from section 3-9)?
- 2. What are the commonalities of convergence across the conditions presented during competition, armed conflict, and return to competition, using specific examples from TP 525-3-1, sections 3-5 through 3-9?

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1. |    |       |          |
| Uses specific conceptual verbiage when explaining the    |    |       |          |
| three tenets across the five multi-domain (operational)  |    |       |          |
| problems.  |    |       |          |
| Incorporates examples across echelons and conditions     |    |       |          |
| into discussions.  |    |       |          |

#### Module 5

Explain the 14 required capabilities and their relationship to the MDO solution

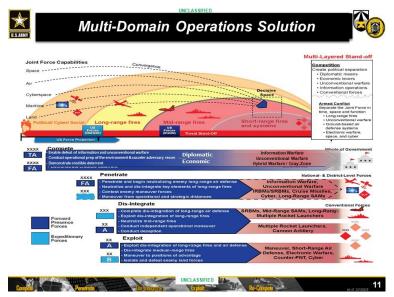
#### Steps to Complete the Module:

- I. Complete required reading
- II. Support explanation of Visual Aids using specific sections in required reading
- III. Address the questions via active discussions in a group setting

#### Reading Requirement:

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapters 2 and 3; Appendices B and C.

**Visual Aids:** TP 525-3-1, Figure 3-1, *Problems superimposed on the MDO framework*, and Figure 3-3, *MDO solutions*; MDO Concept briefing, slide #11



Slide #11: Multi-Domain Operations Solution

**Competency Module 5:** Explain the 14 required capabilities and their relationship to the MDO solution

Description of the module's learning objective: The professional describes how each tenet and combinations of the three tenets, displayed as specific aspects of the MDO solution in the visual aid, might resolve each of the required capabilities to conduct MDO. The professional describes how the displayed MDO solution, highlighted against five multi-domain (operational) problems, directly address several of the 14 required capabilities in Appendix B, TP 525-3-1.

#### Module 5 Questions:

- 1. How do each of the 14 required capabilities address each of the five multi-domain (operational) problems?
- 2. How are each of the MDO tenets presented as potential solutions for each of the 14 required capabilities? Provide examples from Chapter 3 where applicable.
- 3. How are the required capabilities reflective of the strategic, operational, or tactical levels of operations?

#### Supplemental Questions:

- 1. Using Appendix C, provide an example of functional areas of consideration when addressing the MDO framework, the five multi-domain (operational) problems, the three tenets, the MDO solution, and the 14 required capabilities?
- 2. If you only had slide #11, how would you use it to explain future operational environment, near-peer adversary's stand-off, the five multi-domain (operational) problems, the three tenets, and the MDO solution?

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1. |    |       |          |
| Uses specific conceptual verbiage when explaining the    |    |       |          |
| MDO solution across the MDO framework.                   |    |       |          |
| Incorporates content of Appendices B and C into          |    |       |          |
| discussions.   |    |       |          |

Describe the purpose and utilization of the Battlefield Development Plan (BDP) with respect to analysis and experimentation of the MDO Concept

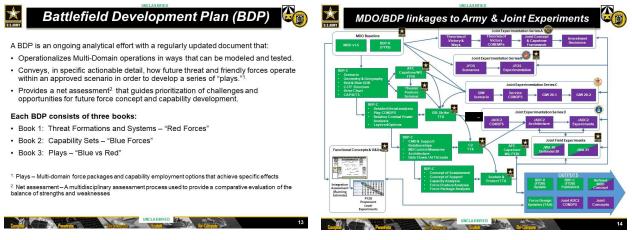
#### Steps to Complete the Module:

- I. Complete required reading
- II. Support explanation of visual aids using specific sections in the required reading
- III. Address the questions via active discussions in a group setting

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapters 1, 2, 3, and 4; Appendices B, C, and D.

**Visual Aids:** MDO Concept briefing, slide #13: *Battlefield Development Plan*; and slide #14: *MDO/BDP Linkages* 



Slide #13: Battlefield Development Plan (BDP)

Slide #14: MDO/BDP Linkages

**Competency Module 6:** Describe the purpose and utilization of the BDP with respect to analysis and experimentation of the MDO Concept.

Description of module's learning objective: Using TP 525-3-1 as the seminal document for the BDP Books, the professional is able to discuss the foundational linkages of the BDP Books 1, 2, and 3 from TP 525-3-1's chapters and appendices. The professional describes the usefulness and utility of the BDP Books as the foundational context and a reliable analytical framework for operationalizing the MDO Concept

#### Module 6 Questions:

- 1. How are the chapters of TP 525-3-1, *The U.S. Army in Multi-Domain* Operations, 2028, reflected in Books 1-3 of the Battlefield Development Plan (BDP)?
- 2. How are the three tenets of the MDO Concept reflected in BDP Books 2 and 3?

#### Supplemental Questions:

- 1. Given a completed BDP play from Book 3, what are ways to show that the components of the play operationalize the components of the MDO Concept? Give examples that reflect chapters 2 and 3 and Appendix B.
- 2. How might a BDP-Russia play from Book 3 be utilized during a learning event (experiment, wargame, warfighting assessment, etc.) to focus on an assessment of Army Functional Concepts, Army Supporting Concepts, or operational and organizational (O&O) concepts? Describe the process that might be used (or some possible approaches) to assess the components in a current BDP-Russia play from Book 3 to a component(s) in an Army Functional Concept, Army Supporting Concept, or O&O concept.

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1.   |    |       |          |
| Flexible in using conceptual and non-conceptual verbiage.  |    |       |          |
| Incorporates TP 525-3-1 content, with respect to the three |    |       |          |
| tenets, into explanation of each BDP Book.                 |    |       |          |

Explain Army functional considerations in supporting the MDO solution across the MDO framework

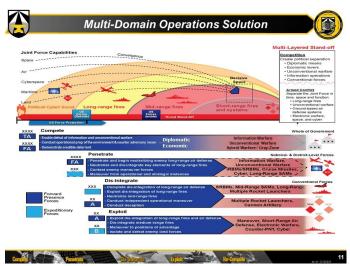
#### Steps to Complete the Module:

- I. Complete required reading
- II. Support explanation of visual aids using specific sections in the required reading
- III. Address the questions via active discussions in a group setting

#### Reading Requirement:

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapter 3; Appendices B and C.

**Visual Aids:** TP 525-3-1, Figure 3-1, *Problems superimposed on the MDO framework*, and Figure 3-3, *MDO solutions*; MDO Concept briefing, slide #11



Slide #11: Multi-Domain Operations Solution

**Competency Module 7:** Explain Army functional considerations in supporting the MDO Solution across the MDO framework

Description of the module's learning objective: The professional describes how functional considerations impact specific MDO solutions or are impacted by specific MDO solutions in the visual aid. The professional describes how functionally-focused MDO solutions, highlighted against five Multi-Domain (operational) problems, directly address any of the 14 required capabilities at Appendix B, TP 525-3-1.

#### Module 7 Questions:

- How might an Army functional or an Army supporting concept describe approaches to remain in competition (as described in TP 525-3-1, section 3-5, *MDO in competition: Compete to expand the competitive space*, and section 3-9, *MDO in return to competition: Re-compete to consolidate and expand gains*)? Use information from these two sections' sub-sections to present context.
- 2. What are some functional vulnerabilities or limitations to the MDO-Capable Army of 2028 that are not addressed in Appendix C?

#### Supplemental Questions:

- Using Appendix C, TP 525-3-1, explain how an Army functional area might demonstrate an integrated capabilities approach across the MDO framework and at echelon to support the MDO Tenets and/or MDO Solutions.
- 2. How would experimentation provide evidence for the alignment of an Army functional or Army supporting concept's military problem and central idea to the TP 525-3-1 five Multi-Domain (operational) problems?

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1. |    |       |          |
| Uses specific conceptual verbiage when explaining        |    |       |          |
| functional aspects of the MDO solution across the MDO    |    |       |          |
| framework.   |    |       |          |
| Incorporates content of Appendices B and C into          |    |       |          |
| discussions.   |    |       |          |

Explain the influences of elements of national power or DIME (Diplomatic, Information, Military, and Economic) and their PMESII-PT (Political, Military, Economic, Social, Information, Infrastructure – Physical Environment and Time) effects on the tenets of the MDO Concept.

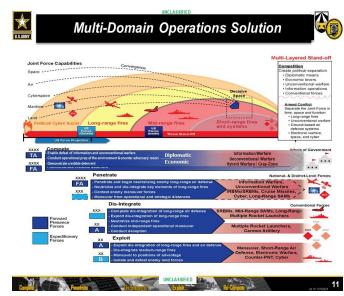
#### Steps to Complete the Module:

- I. Complete required reading
- II. Address the questions

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). *The U.S. Army in Multi-Domain Operations, 2028.* Chapter 3 and Appendices B and C.

**Visual Aids:** TP 525-3-1, Figure 3-1, *Problems superimposed on the MDO framework*, and Figure 3-3, *MDO Solutions*; MDO Concept briefing slide #11



Slide #11: Multi-Domain Operations Solution

**Competency Module 8**: Explain the influences of the elements of national power or DIME (Diplomatic, Information, Military, and Economic) and their PMESII-PT (Political, Military, Economic, Social, Information, Infrastructure – Physical Environment and Time) effects on the tenets of the MDO Concept.

Description of the module's learning objective: Discuss the relationships of the elements of national power or DIME (Diplomatic, Information, Military, and Economic) and their PMESII-PT (Political, Military, Economic, Social, Information, and Infrastructure – Physical Environment

and Time) effects on the Tenets of MDO Concept, and incorporates DIME (Diplomatic, Information, Military, and Economic) factors into how, at echelon, these need to be complementary to U.S. military actions across the MDO framework.

#### Module 8 Questions:

- 1. How might the elements of DIME, with respect to U.S. and/or our multinational partners, positively impact our near-peer adversary's systemic vulnerabilities and dependencies in order to remain in competition and/or when returning to competition?
- 2. How might the elements of DIME, with respect to U.S. and/or our multinational partners, rapidly implement actions to successfully penetrate, dis-integrate, and exploit our near-peer adversary's systemic vulnerabilities and dependencies?
- 3. How do PMESII effects on the tenets of the MDO Concept positively impact the key required capabilities?

|   | Go | Re-Do | Comments |
|---|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1.  |    |       |          |
| Flexible in using conceptual and non-conceptual verbiage. |    |       |          |
| Incorporates content of DIME and PMESII into the          |    |       |          |
| discussion.   |    |       |          |

Assessment Rubric: Used primarily for self-assessment.

Create and brief a presentation that describes the Army functional considerations in supporting the MDO solution across the MDO framework

#### Steps to Complete the Module:

- I. Complete required reading
- II. Create presentation slide(s) that reflect discussions from addressing the questions in module 7

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). The U.S. Army in Multi-Domain Operations, 2028.

Visual Aid: MDO Concept briefing v7, 20 May 2019

**Competency Module 9:** Create and brief a presentation that describes the Army functional considerations in supporting the MDO solution across the MDO framework

Description of the module learning objective: The professional prepares and briefs a 15minute presentation that uses MDO Concept briefing slides to depict and describe how functional considerations impact specific aspects of the MDO solution or are impacted by specific aspects of the MDO solution in the visual aid. The professional depicts and describes how functionally focused aspects of the MDO solution, highlighted against the five multi-domain (operational) problems, directly address any of the 14 required capabilities in Appendix B, TP 525-3-1.

#### Module 9 Task:

Develop a visual presentation that depicts and describes how functional considerations impact specific aspects of the MDO solution or are impacted by specific aspects of the MDO solution in the visual aid. The professional depicts and describes how functionally focused aspects of the MDO solution, highlighted against the five multi-domain (operational) problems, directly address any of the 14 required capabilities in Appendix B, TP 525-3-1.

#### Assessment Rubric: Used primarily for self-assessment.

|  | Go | Re-Do | Comments |
|--|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1. |    |       |          |
| Uses specific conceptual verbiage when explaining        |    |       |          |
| functional aspects of the MDO solution across the MDO    |    |       |          |
| framework.   |    |       |          |
| Incorporates content of Appendices B and C into          |    |       |          |
| discussions.   |    |       |          |

Create and brief a presentation that describes the requirement for the whole-of-government application of elements of DIME (Diplomatic, Information, Military, and Economic) and their PMESII (Political, Military, Economic, Social, Information, and Infrastructure) effects on the tenets of the MDO Concept.

#### Steps to Complete the Module:

- I. Complete required reading
- II. Create presentation slide(s) that reflect discussions from addressing the questions in module 8

#### **Reading Requirement:**

TP 525-3-1 (6 December 2018). The U.S. Army in Multi-Domain Operations, 2028.

Visual Aid: MDO Concept briefing v7, 20 May 2019

**Competency Module 10:** Develop a presentation that describes the elements of DIME (Diplomatic, Information, Military, and Economic) and their PMESII (Political, Military, Economic, Social, Information, and Infrastructure) effects on the tenets of the MDO Concept.

Description of module learning objective: The professional prepares and briefs a 15 minute presentation that uses previous MDO Concept briefings slides and incorporates, visually, DIME (Diplomatic, Information, Military, and Economic) factors into how, at echelon, these need to be complementary to U.S. military actions across the MDO framework.

#### Module 10 Task:

Develop a presentation that reflects the whole-of-government application of the MDO Concept using the factors of DIME (Diplomatic, Information, Military, and Economic) depicting, at echelon, how the PMESII (Political, Military, Economic, Social, Information, and Infrastructure) effects factors into how, at echelon, these need to be complementary to U.S. military actions across the MDO framework support the tenets of the MDO Concept.

#### Assessment Rubric: Used primarily for self-assessment

|   | Go | Re-Do | Comments |
|---|----|-------|----------|
| Addresses all questions directly referencing TP 525-3-1.  |    |       |          |
| Flexible in using conceptual and non-conceptual verbiage. |    |       |          |
| Incorporates content of previous MDO Concept              |    |       |          |
| presentations, and incorporates new content with respect  |    |       |          |
| to PMESII (Political, Military, Economic, Social,         |    |       |          |
| Information, and Infrastructure) effects.                 |    |       |          |

Appendix A. MDO Concept Briefing (version 7, 20 May 2019)

SUBJECT: MDO Concept Briefing for Understanding the MDO Concept Training

**General**. These 12 standard slides are used to brief the MDO Concept. Additionally, each slide is a visual aid that helps achieve the competency (knowledge, skills, and abilities) for the respective learning module in which the slides are used. The key points in the learning criteria below for each slide help achieve the competency required to brief each MDO Concept briefing slide. The base slide deck is MDO Concept Briefing, version 7, 20 May 2019, and the slides will be updated to reflect current and relevant thinking on the MDO Concept.

A-1. Slide #3, **Operational Environment** used in Module 1: Explain the future OE with respect to near-peer capabilities



#### Slide #3 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Explains how the U.S. is contested in every domain.       |     |    |       |
| Explains how smaller armies fight in an expanded          |     |    |       |
| battlefield that is increeasingly lethal and hyperactive. |     |    |       |
| Explains how nation states have more difficulty imposing  |     |    |       |
| their will within a more politcally, culturally,          |     |    |       |
| technologically, and strategically complex environment.   |     |    |       |
| Explains near-peer adversaries competing below armed      |     |    |       |
| conflict that challenges our deterence efforts.           |     |    |       |
| Describes the projected increase in dense urban           |     |    |       |
| terrain/environments.                                     |     |    |       |

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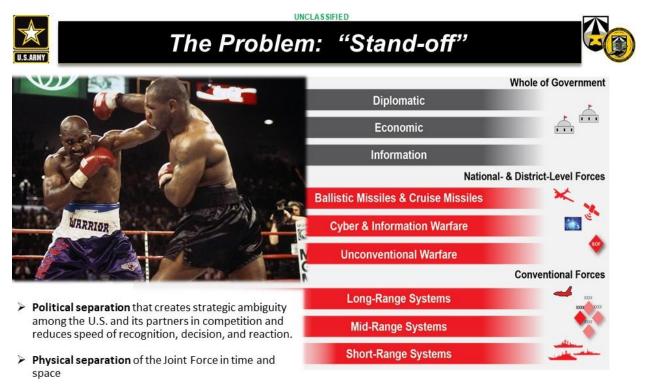
A-2. Slide #4, *Threat focus: China and Russia* used in Module 1: *Explain the future OE with respect to near-peer capabilities* 





#### Slide #4 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Explains the NSS and NDS influences on the MDO                |     |    |       |
| Concept.  |     |    |       |
| Explains the importance of a concept and the distinction with |     |    |       |
| current doctrine and operations.                              |     |    |       |
| Defines pacing threat and explains importance to overcome     |     |    |       |
| anti-access and area denial .                                 |     |    |       |
| Explains near-peer and non-state actors and the relationship  |     |    |       |
| to the NSS and NDS.   |     |    |       |
| Describes conceptual applicability to other states that       |     |    |       |
| contest international norms as predicted in the Joint         |     |    |       |
| Operating Environment 2035.                                   |     |    |       |



#### A-3. Slide #5, The Problem: "Stand-off" used in Module 2: Explain stand-off

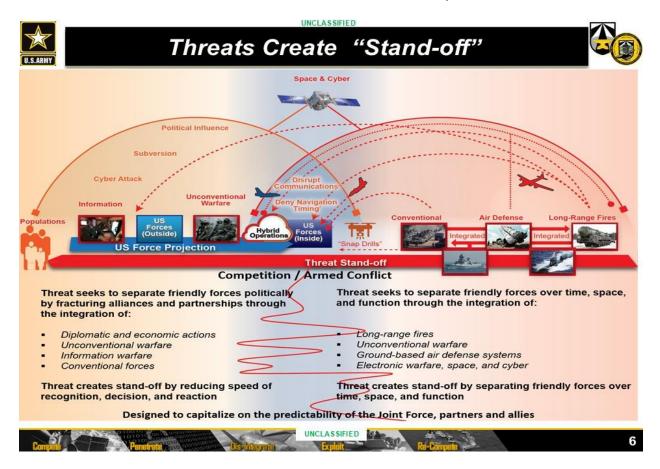
> Functional separation of the Joint Force in capability

Combined Arms Armies employ organic long-, mid-, and short-range systems to create operational and tactical stand-off that requires attacking functions rather than formations

5

#### Slide #5 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Describes how China and Russia have invested in multiple        |     |    |       |
| layers of stand-off to avoid our strengths that we displayed    |     |    |       |
| during battles in 1991 and 2003.                                |     |    |       |
| Explains multiple layers of stand-off: (1) political and social |     |    |       |
| stand-off that creates strategic ambiguity among the U.S. and   |     |    |       |
| its partners in competition and reduces speed of recognition,   |     |    |       |
| decision, and reaction; mostly in the cyberspace and space      |     |    |       |
| domains and social media.                                       |     |    |       |
| Explains stand-off in both physical and functional aspects with |     |    |       |
| respect to (2) Anti-Access and Area-Denial (A2AD) systems;      |     |    |       |
| (3) long-range precision massed fires; (4) mid-range and        |     |    |       |
| short-range fires and hybrid warfare.                           |     |    |       |

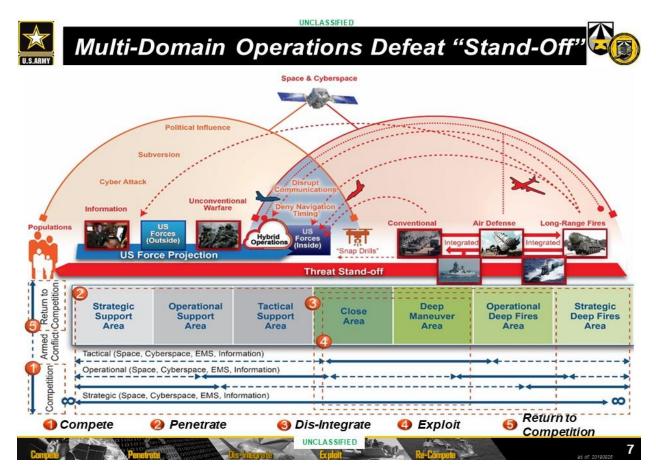


#### A-4. Slide #6, Threats Create "Stand-off" used in Module 2: Explain stand-off

#### Slide #6 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Explains these graphics as a follow-on to previous slide to   |     |    |       |
| emphasize that the Joint Force must solve standoff,           |     |    |       |
| diluted deterrence, and limited options thru both posture     |     |    |       |
| and penetration.  |     |    |       |
| Explains how Army forces, as an element of the Joint          |     |    |       |
| Force, conduct Multi-Domain Operations to <i>prevail in</i>   |     |    |       |
| <i>competition</i> ; when necessary, Army forces are prepared |     |    |       |
| to conduct armed conflict.                                    |     |    |       |
| Explains the four pillars that adversaries use to create      |     |    |       |
| confusion and ambiguity during competition (Diplomatic        |     |    |       |
| and Economic Actions; Unconventional Warfare;                 |     |    |       |
| Information Warfare; and Conventional Forces).                |     |    |       |
| Explains near-peer threats' (Russia and China) systemic       |     |    |       |
| vulnerabilities and dependencies that create operational      |     |    |       |
| shortfalls on which the Joint Force can exploit across the    |     |    |       |
| competition and armed conflict continuum.                     |     |    |       |
| Explains how this approach to stand-off applies to other      |     |    |       |
| threats based on the unique cultural, geographic, and         |     |    |       |
| military contexts posed by these and other future threats.    |     |    |       |

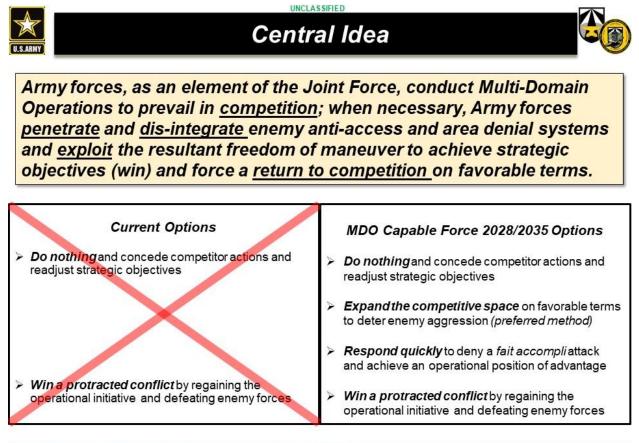
A-5. Slide #7, *Multi-Domain Operations Defeat "Stand-off"* used in Module 3: *Explain the five multi-domain (operational) problems* 



#### Slide #7 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Explains how defeating the future threats' stand-off requires |     |    |       |
| understanding that the battlefield is not the traditional     |     |    |       |
| geography bounded by national borders; describes how the      |     |    |       |
| MDO framework is reflected in at least seven areas depicted   |     |    |       |
| linearly in the visualization.                                |     |    |       |
| Explains that the nature of MDO is that operations are not    |     |    |       |
| sequential but rapid, continuous and, at times, layered at    |     |    |       |
| various echelons, as well as without patterns that could be   |     |    |       |
| discerned.  |     |    |       |
| Explains the five multi-domain operational problems with      |     |    |       |
| respect to the MDO framework; describes these problems        |     |    |       |
| are not the restricted by the area's boundaries or by the     |     |    |       |
| traditional joint campaign phases (phase 0 to phase V).       |     |    |       |
| Describes how the MDO framework requires a thorough           |     |    |       |
| understanding and application of complementary physical,      |     |    |       |
| virtual, and cognitive capabilities that must be developed in |     |    |       |
| support of force modernization, as well as readiness.         |     |    |       |

A-6. Slide #8, **Central Idea** used in Module 3: *Explain the five multi-domain (operational) problems* 

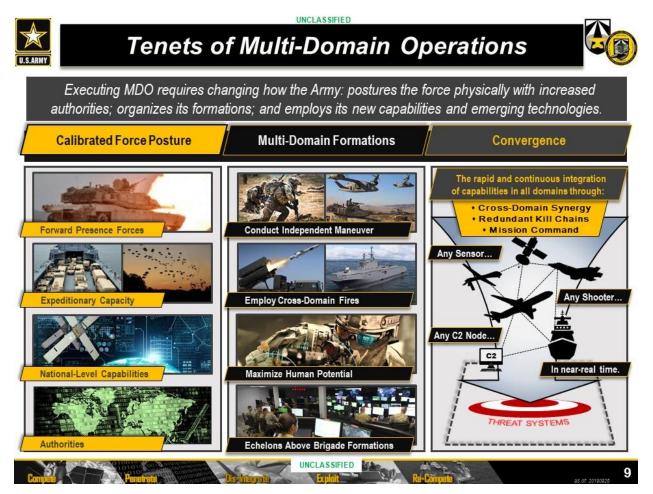




#### Slide #8 Learning Criteria

| Key Points  | Yes | No | Notes |
|---|-----|----|-------|
| Explains our intention to expand the competitive space and  |     |    |       |
| prolong the current state environment or status quo IAW the |     |    |       |
| NDS, and explains, at the same time, that we must have the  |     |    |       |
| capabilities to transition rapidly to armed conflict.       |     |    |       |
| Explains how we must solve problem #1 if we are to win a    |     |    |       |
| short conflict.   |     |    |       |
| Explains that Russia and China are designing their systems  |     |    |       |
| to fight a protracted conflict in order to impose costs on  |     |    |       |
| whoever opposes them. Explains how this requires that our   |     |    |       |
| future capabilities are not developed for attrition.        |     |    |       |
| Describes how this MDO Concept, as it is being refined,     |     |    |       |
| provides the azimuth for the AMS, drives DOTMLPF-P          |     |    |       |
| solutions, and deepens integration of general purposes and  |     |    |       |
| special operations forces with alkies and partners.         |     |    |       |

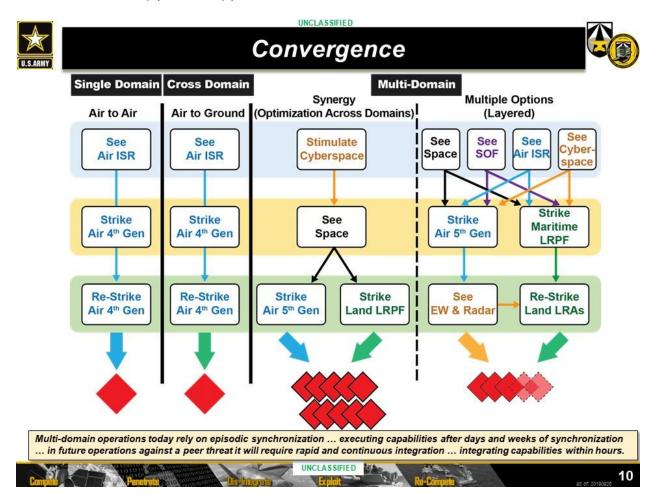
A-7. Slide #9, **Tenets of Multi-Domain Operations** used in Module 4: Describe how the three tenets address each of the multi-domain (operational) problems



#### Slide #9 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Describes the approach of implementing each of these tenets      |     |    |       |
| to solve each of the five multi-domain (operational) problems.   |     |    |       |
| Explains how calibrated force posuture is about the right forces |     |    |       |
| to remain in competition as well as achieving favorable force    |     |    |       |
| postures when returning to competition with respect to:          |     |    |       |
| sustainment; maneuver support; C2; long-range fires; sufficient  |     |    |       |
| maneuver forces to contest the enemy's maneuver of forces;       |     |    |       |
| and the right authorities.                                       |     |    |       |
| Explains how all formations must possess multi-domain            |     |    |       |
| capabilities with the capacity and endurance (resiliance) to     |     |    |       |
| pose multiple and compounding dilemmas on the adversary.         |     |    |       |
| Explains convergence in achieving rapid and continuous           |     |    |       |
| integration of all domains across time, space, and capabilities  |     |    |       |
| to overmatch the adversary.                                      |     |    |       |

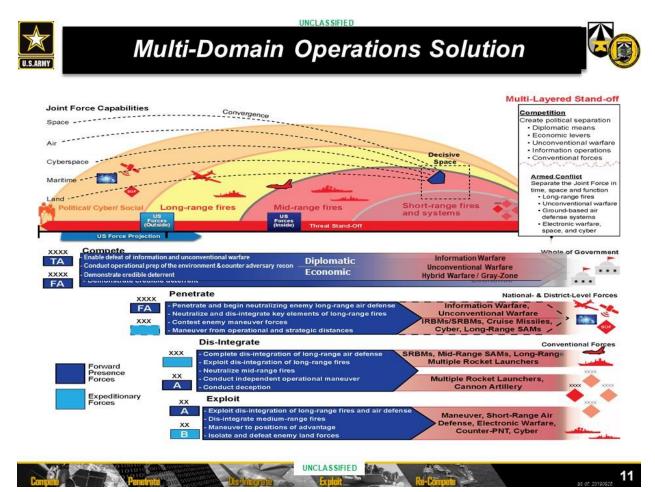
A-8. Slide #10, **Convergence** used in Module 4: Describe how the three tenets address each of the multi-domain (operational) problems



#### Slide #10 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Explains how convergence starts with figuring out what the   |     |    |       |
| requirements are to solve a specific problem.                |     |    |       |
| Describes how our capabilities to synchronize Joint Force    |     |    |       |
| capabilities at echelons against a current threat (using     |     |    |       |
| hundreds of leaders and various staff levels at time of our  |     |    |       |
| choosing) must now be focused against a future adversary     |     |    |       |
| that has studied our capabilities, and how we must be able   |     |    |       |
| to do this rapidly and continuously against specific systems |     |    |       |
| Explains that interoperability across Service, interagency,  |     |    |       |
| and multinational partners is a key element to executing     |     |    |       |
| MDO. Multi-domain C2 (described as Joint All-Domain C2       |     |    |       |
| in the emerging DoD perspective on the Joint Force) is the   |     |    |       |
| combination of joint and combined materiel, processes, and   |     |    |       |
| authorities that underpin convergence, multi-domain          |     |    |       |
| formations, and C2 designed to enable and exploit            |     |    |       |
| interoperability.  |     |    |       |

A-9. Slide #11, *Multi-Domain Operations Solution* used in Module 5: *Explain the 14 required capabilities and their relationship to the MDO solution*, and Module 7: *Explain Army functional considerations in supporting the MDO solution across the MDO framework* 



#### Slide #11 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Explains how this slide brings components of the MDO           |     |    |       |
| Concept – future OE, near-peer adversary, and stand-off        |     |    |       |
| against MDO framework and the five MD problems with the        |     |    |       |
| three Tenets that address the five problems – together.        |     |    |       |
| Describes the tasks that address each of the multi-domain      |     |    |       |
| problems wrt the echelons at which different formations        |     |    |       |
| achieve solutions to address the problem.                      |     |    |       |
| Explains solutions sets by referencing tenets that address     |     |    |       |
| problems that deny near-peer adversary's successful stand-off. |     |    |       |
| Describes simualtaneity of solutions, as well as use of        |     |    |       |
| experimentation to determine optimal combination of cross-     |     |    |       |
| domain capabilities to achieve desired effects.                |     |    |       |

A-10. Slide #12, *AirLand Battle vs MDO: What is the Difference?* used as a back-up slide. This slide might be used when explaining the difference between ALB doctrine and the MDO Concept, between synchronization and convergence, or when explaining long-/mid-/short-range threats in support of describing physical and/or functional stand-off

| AirLand Battle and Multi-Domain Operations:<br>What is the Difference? |   |   |  |  |  |  |
|--|---|---|--|--|--|--|
| Element  | AirLand Battle  | Multi-Domain Operations   |  |  |  |  |
| Operational<br>Environment   | Single Pacing Threat (Soviet Union)                                       | Multiple Threats across the OE with similar operation approaches (near-peers)   |  |  |  |  |
| Focus  | Formations (Second Echelon)   | Systems (Anti-Access and Area Denial Systems)   |  |  |  |  |
| Operational Context  | Forward postured force in prepared defense                                | CONUS-based force executing offensive<br>action through strategic and operational<br>maneuver   |  |  |  |  |
| Central Idea   | Engage throughout the depth of the battlefield; defeat the Second Echelon | Compete in all domains; when necessary,<br>penetrate and dis-integrate enemy anti-<br>access and area denial systems and exploit<br>the resultant freedom of maneuver to<br>achieve strategic objectives (win) and force a<br>return to competition |  |  |  |  |
| Domains  | Land, Air (synchronization)   | Land, Air, Maritime, Space, Cyber (synergy)   |  |  |  |  |
| Echelon  | Corps/Division and below  | Inter-Agency, Theater and below   |  |  |  |  |
| Phases   | Phased operations in armed conflict                                       | Across competition continuum  |  |  |  |  |
| Concept  | UNCLASSIFIED  | All Domains Contested Air Cyber   |  |  |  |  |

#### Slide #12 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Explains the differences between ALB and MDO Concept by          |     |    |       |
| highlighting the elements of each: Operational Environment;      |     |    |       |
| Focus; Operational Context; Central Idea; Domains; Echelon;      |     |    |       |
| Phases; and Concept.   |     |    |       |
| Provides an example of any element that may be asked by          |     |    |       |
| using historical contexts for ALB application in contrast to how |     |    |       |
| MDO Concept would differ using a BDP play that                   |     |    |       |
| operationalizes the MDO Concept tenets.                          |     |    |       |

A-11. Slide #13, *Battlefield Development Plan.* This slide is used during Module 6 discussions.



# Battlefield Development Plan (BDP)

A BDP is an ongoing analytical effort with a regularly updated document that:

- Operationalizes Multi-Domain operations in ways that can be modeled and tested.
- Conveys, in specific actionable detail, how future threat and friendly forces operate within an approved scenario in order to develop a series of "plays."<sup>1.</sup>
- Provides a net assessment<sup>2</sup> that guides prioritization of challenges and opportunities for future force concept and capability development.

#### Each BDP consists of three books:

- · Book 1: Threat Formations and Systems "Red Forces"
- Book 2: Capability Sets "Blue Forces"
- Book 3: Plays "Blue vs Red"

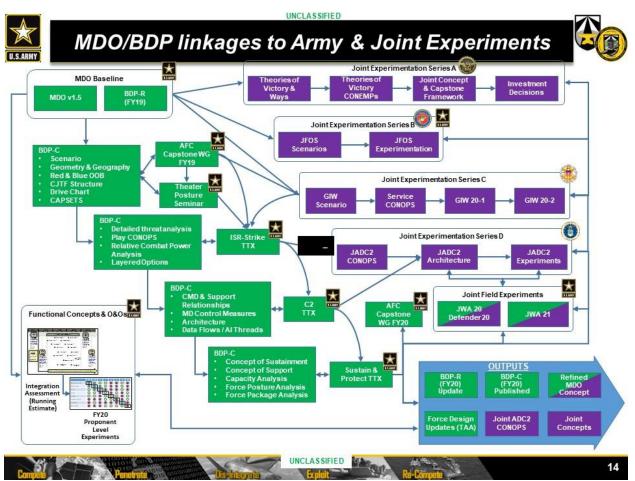
<sup>1.</sup> Plays – Multi-domain force packages and capability employment options that achieve specific effects

 $^2\,$  Net assessment – A multidisciplinary assessment process used to provide a comparative evaluation of the balance of strengths and weaknesses



#### Slide #13 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Explains that MDO Concept continues to be analyzed through       |     |    |       |
| both inductive and deductive approaches that use both            |     |    |       |
| qualitative and quantiative methodologies to analyze data from   |     |    |       |
| experimentation (from low fidelity table top exercises (TTXs     |     |    |       |
| through high fidelity field experiments) acorss the community of |     |    |       |
| concept developers.  |     |    |       |
| Explains that the analytical framework to any MDO Concept        |     |    |       |
| experimentation is the three BDP books that ensure               |     |    |       |
| consistency of threat (Book 1), friendly data (Book 2), and, as  |     |    |       |
| applicable, the operationalization of the three tenets (Book 3). |     |    |       |
| Explains the rationale for continuous experimentation on the     |     |    |       |
| MDO Concept is to continue to see how to best operationalize     |     |    |       |
| the concept so the DOTMLPF-P solutions are developed using       |     |    |       |
| consistency and analytical rigor.                                |     |    |       |



#### A-12. Slide #14, *MDO BDP Linkage*. This slide is used during Module 6 discussions.

#### Slide #14 Learning Criteria

| Key Points   | Yes | No | Notes |
|--|-----|----|-------|
| Explains that the lineage or linkage between MDO Concept       |     |    |       |
| and the BDP are both helpful to describe what the components   |     |    |       |
| of the MDO Concept are and how they are operationalized        |     |    |       |
| within the context of Army and Joint experimentation.          |     |    |       |
| Uses explanation from Slide #13 Key Points to emphasize that   |     |    |       |
| since the MDO Concept is a concept that is aspirational, the   |     |    |       |
| BDPs are operationalizations of aspirational tenets that       |     |    |       |
| continue to enable learning across the future force            |     |    |       |
| modernization enterprise on how to approach solving the multi- |     |    |       |
| domain (operational) problems.                                 |     |    |       |

#### Appendix B. Small Group Facilitator Training Slide Deck

B-1. **Training small group facilitators:** Duration is estimated for 2 hours. This is best conducted with other small group facilitators who meet the criteria to be a facilitator.

*Who:* Ideally, facilitators are members of the organization who are not in a supervisory position but demonstrate the ability to maintain rapport with others, converse with all levels of the organization's hierarchy, and is able to maintain order in a small group of learners so that each learner does not dominate discussions.

*What:* Designated facilitator role models behaviors and communications expected by small group participants. Facilitator measures the time it takes to run 5-6 participants through the module's questions. Facilitator maintains focus of participants' discussion to answer the question directly. Facilitator takes notes of questions participants raise that cannot be found in TP 525-3-1.

*How:* Facilitators participate as if they are small group participants, each taking a turn as the group's facilitator. Discuss points in Small Group Facilitator Training slide deck at Appendix B.

Wherever possible, two co-facilitators per small group is optimal to ensure management of discussions and time, and note taking is achieved. Also, whenever possible, small groups are intentionally created with members from different subordinate groups who don't work together. Facilitator's supervisors should not be placed in small groups with a facilitator who is a direct report.

B-2. Facilitator Training Slides. The three slides that are included in this appendix guide the training of facilitators who will lead the small group discussions. After an introductory plenary session, training facilitators is best accomplished by dividing the large group of facilitators into smaller groups with 5-6 people in each group, and having each person role-model the facilitator role while the other facilitator trainees provide feedback on ways to maintain rapport with a small group, keep to time limits so each person has the opportunity to share thoughts, ideas, and comments about the specific module question, and to ensure active discussions focus on the specific questions with respect to what is available in TP 525-3-1. Although knowledge, personal and professional background, and experiential information may enhance discussion about the questions, the facilitator's role is to focus the discussion on how the content of TP 525-3-1 addresses each question. A best practice technique for facilitators is to use a "Request for information (RFI) Parking Lot" on a whiteboard or piece of paper taped to the wall so when a small group participant has an idea, thought, or comment that drives the discussion away from directly answering the specific module question, the facilitator adds the topic to the "RFI Parking Lot" in order to return to the module question. Issues in the RFI Parking Lot, if not addressed in subsequent modules, may be presented as unanswered issues during the AAR.

During the Facilitator's training, the sponsor (host organization) can also decide whether the participants will be required to implement modules 9 or 10 with each participant briefing the entire MDO Concept Briefing slide deck as individuals or as a small group. Emphasis should be made for each participant to demonstrate competence in the application of the participant's functional or area of expertise with the MDO Concept.



### Learning Facilitator's Guide



Purpose: To enable effective learning that leads to MDO Concept Expertise

#### Presuppositions:

- 1. None of us is as smart as all of us (Blanchard, 2001).
- 2. A concept is an idea that requires continuous physical, virtual, and cognitive examination.
- 3. An operating concept is aspirational based on leadership vision.
- 4. There is no absolute truth in an operating concept; the best practitioners understand how the components can work together through active discussion.
- 5. Active discussion is about everyone sharing ideas; not demonstrating intellectual superiority.
- 6. When active discussion fails, revert to presuppositions #1-4.

**Starting Point:** <u>TP 525-3-1</u> is the published Army Operating Concept (AOC). Learning the AOC presupposes that the learner **has read it** and agrees to approach MDO Concept Expertise learning by accepting the presuppositions.

#### Reference

Blanchard, K. (2001). High five - The magic of working together. New York: William Morrow & Company

#### **Discussion Points:**

Facilitators enable the learning of the small group participants by managing the small group's:

**Time**: divide available time so each module is provided equal amount of time.

**Overview**: provide overview of learning curriculum's purpose, each module layout, how to get the most from the small group discussion session, and what the end state is for the learning.

Answers: keep focus of participants' discussions as a direct answer to the question.

#### Participant Expectations:

+ Have read TP 525-3-1 before the scheduled the "Understanding the MDO Concept" training course;

+ Will directly address each question in each module, per facilitator's management;
+ Stay on task; acknowledge the components of the concept being discussed by challenging what the component means; find where the challenged issue might be addressed in TP 525-3-1;
+ Allow others in the small group to address the question and raise challenges of inquiry; and
+ Refer to presuppositions as often as necessary.

**How to get the most from the training session:** This is a concept, an aspirational approach to guide our modernization strategy. Critical thinking and questions of inquiry about what is in

TP 525-3-1 is how to most effectively learn. You MUST have read TP 525-3-1 before the scheduled training.



### Learning Facilitator's Guide



**Learning Curriculum:** Enables learning through UnderstandingTP 525-3-1 using Socratic approach of asking questions to achieve small group active discussions

**Overview:** Understanding the MDO Concept - Learning Curriculum:

Modules 1-5

- 1 Explain the future OE with respect to near-peer capabilities
- 2 Explain Stand-Off
- 3 Explain the five multi-domain (operational) problems
- 4 Describe how the three tenets address each of the multi-domain (operational) problems
- 5 Explain the 14 required capabilities and their relationship to the MDO framework and the tenets
- □ Module 6 Overview (unclassified version presented in plenary)
  - 6 Describe the purpose and utilization of the battlefield development plan (BDP) with respect to analysis and experimentation of the MDO Concept
- Discuss level of learning required to address questions in each of the modules
- Discuss what other critical thinking (supplementary) questions might aid in achieving the module competency
- Uses reference library documents to support active discussions

**Discussion Points:** 

Facilitators enable the learning of the small group participants by thoroughly explaining learning objectives and expectations of the "Understanding the MDO Concept" training course.

**Overview:** Facilitator goes through the following within small group setting: Learning Purpose; Learning Description; and Learning Preparation and Delivery.

**Understanding TP 525-3-1 Learning Objectives:** (1) Review, interpret, and critique TP 525-3-1, *The U.S. Army in Multi-Domain Operations, 2028;* (2) Assist others in understanding the components of the MDO Concept; (3) Identify and discriminate between the variety of perspectives brought by professionals at different levels of experience, knowledge, and exposure to how the U.S. Army currently operates and how the U.S. Army intends to operate in the future; (4) Assist in the analysis and/or application of the MDO Concept components across the width and depth of experimentation efforts that influence the Army Modernization Strategy; and (5) Develop a strategy, protocol, and thought process when presenting aspects of the MDO Concept to a variety of audiences.

**Small Group Expectations:** Facilitators manage discussions of module's questions, maintain focus of participants' discussion to answer the question directly, and allow time for each participant to address module's questions.

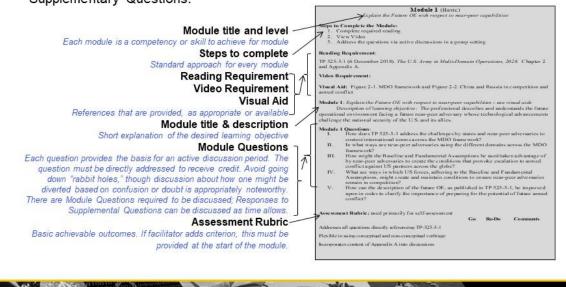


## Learning Facilitator's Guide



**Learner Facilitator's role:** To enable effective learning that leads to TP 525-3-1 understanding by complying with these activities in the small group:

- □ Explains how each module enables learning within a small group environment
- □ Explains the specific module's learning objectives for the participants
- Facilitates discussion that addresses the required questions; as time allows, discusses Supplementary Questions.



#### **Discussion Points:**

This slide may be used by facilitators to explain small group expectations at the beginning of the "Understanding the MDO Concept" training course to achieve TP 525-3-1 understanding.

For the full "Understanding the MDO Concept" training course, the graphics on this slide are used to explain points on page 38, Overview: provide overview of learning curriculum's purpose, *each module layout*, how to get the most from the training session, and what the end state is for the training/learning.