Creating Shared Understanding: Tools, Challenges, and Minimum Requirements

Lead Analyst

Spangenberg, David M.

CALL, FFD

Introduction

Warfighter Exercises (WFXs) have demonstrated that units and staffs struggle to create shared understanding of the operational environment during large scale combat operations (LSCO). This challenge leads to many negative consequences that commanders and staffs must continuously work to overcome. The purpose of this article is to offer a mitigating solution to help address this challenge. It first discusses shared understanding according to doctrine, highlighting the tools and processes units typically rely on to create it. It next describes the two main issues that inhibit shared understanding, reviewing both their impacts and their contributing factors. Lastly, this article offers a recommendation to alleviate this problem: commanders should personally write and publish both their described visualization and their intent as a daily minimum requirement for shared understanding.[1]

Tools and Processes

U.S. Army doctrine describes understanding as "knowledge that has been synthesized and had judgment applied to comprehend the situation's inner relationships, enable decision making, and drive action."[2] It designates shared understanding of "an operational environment, an operation's purpose, problems, and approaches to solving problems" as a principle of mission command.[3] It is a "critical challenge for commanders [and] staffs" who must "actively create shared understanding throughout the operations process (planning, preparation, execution, and assessment)."[4] Observations from WFXs reference four interconnected tools and processes that units typically rely on to enable shared understanding. These are common operational pictures (COP), mission orders, meetings, and knowledge management (KM).

- Common Operational Picture (COP): "a single identical display of relevant information shared by more than one command that facilitates collaborative planning and assists all echelons to achieve *situational awareness*."[5*]

- Mission Orders: verbal, written, or signaled communications that convey instructions from superiors to subordinates. They "enable subordinates to *understand* the situation, their commander's mission and intent, and their own tasks."[6]

- Meetings: "gatherings to present and exchange information, solve problems, coordinate action, and or obtain decisions." They "help *build and maintain shared understanding*, facilitate decision-making, and coordinate action."[7]

- Knowledge Management: "the process of enabling knowledge flow *to enhance shared understanding*, learning, and decision making."[8] Its purpose "is to align people, processes, and tools within the organizational structure and culture to *achieve shared understanding*."[9]

Challenges

In reviewing observations from WFXs over the last three years, one can identify two broader challenges that limit units' abilities to achieve shared understanding. These issues are failing to capture information and failing to share information. Observations reveal how these issues impact either one or several of these aforementioned tools and procedures.

Capturing Information

Many units struggled to capture information and guidance during the exercises. Commanders and staffs relied on meetings (both formal and informal) to share information and guidance; however, many units failed to formally capture the notes, creating gaps and losses in information.[10] This also impacted the mission orders, as many units failed to consistently generate fragmentary orders due to the lack of captured information or guidance that would typically drive the orders production.[11] Further, while units relied on COPs for information sharing, staff sections often failed to display information on overlays leading to gaps in battlefield knowledge. For example, units often reported enemy obstacles and minefields, but staffs failed to compile and capture this information on overlays, leading to preventable casualties from other units striking these same obstacles.[12]

Falling within this issue is also units' failures to capture the level of detail necessary to build shared understanding. In certain instances, units and planners captured and focused on varying levels of detail, e.g., unit sustainment requirements over time, which led to varied analysis as wells as conflicting understanding and recommendations.[13] Observations also highlight that units' mission orders often lacked the necessary details, creating confusion and conflicts in understanding of key tasks and purposes as well as losses in initiative.[14] This issue also impacted the different unit command posts, which

often battle tracked with varying levels of detail, creating discrepancies in COPs and overall shared understanding.[15]

Sharing Information

Units not sharing the information they captured is the other major issue impacting shared understanding. While many staff leads and planners captured notes in the meetings, they often failed to disseminate this information with their subordinates or other sections. This forced planners and subordinate units to continue to plan and operate with dated or incorrect information.[16] Observations also highlighted issues where units using digital COPs updated their overlays, e.g., the enemy obstacle overlay, but failed to adequately share them with other sections and units, leading to preventable casualties.[17] This challenge also impacted the mission orders. Observations reveal that while units often produced fragmentary orders, they struggled to ensure adequate sharing and accessibility, leading to gaps in execution and shared understanding.[18]

Root Causes and Contributing Factors

The WFX observations typically identify poor knowledge management as the overarching cause for these issues. While this may be an accurate assessment, as the components of knowledge management broadly include people, processes, tool, and organization; it may not be the most effective way to consider and address these issues.[19] With further review, one can identify numerous, varying causes and contributing factors that span a broad range of areas. While identifying all the factors and causes quickly exceeds the scope of this article, it is beneficial to review some of them to highlight the complexity of these challenges.

In capturing information and guidance, some units failed to have appointed note-takers while others captured general notes without the appropriate level of detail. In other instances, key staff leads captured the information but failed to share it due to a lack of time, stemming from an overloaded battle rhythm. In many instances, planners and staffs conducted meetings that either lacked participation of other key planners or that failed to identify and disseminate key outputs. These factors also impacted the orders process causing some units to struggle to disseminate orders while others disseminated orders without information from key sections.[20]

Further, many units either struggled to articulate or over generalized their reporting requirements, preventing the capture and dissemination of key information. The sheer quantity of data and information also often overwhelmed planners and staff. This, in conjunction with broad information requirements, led many to either overlook key information or focus on less relevant information. Compounding these challenges was the rapidly evolving battlefield situation, which changed information requirements at an equally rapid pace that exceeded staffs' abilities to adjust.[21]

Enemy disruption of communications as well as limited bandwidth and network limitations also prevented effective capturing and sharing of information. Dispersion of units and command posts frequently impeded communication and consequently information

sharing. Further, command posts and sections within the command posts were often too compartmentalized, limiting information sharing as well as contributing to myopic focuses that lacked perspective and understanding of the broader effort.[22]

Finding a Solution

While the overall solution to this issue may be to address and improve knowledge management, the varying contributing factors and causes render such a broad solution with little to no meaning or utility. Further, it is unlikely that addressing each factor individually would guarantee shared understanding. Even with perfect information capture and sharing, units still must account for the "tacit knowledge" of all personnel that renders their perspectives and understandings varied rather than shared.[23**] Just as few people interpret a work of art in the same manner, so do few planners see and draw the same conclusions from a COP. With this, it may be worthwhile to consider a different approach that mitigates the impacts of these innumerable factors.

Recommendation

While units should work to improve knowledge management and all of its components, they should also establish a "minimum requirement" for shared understanding. This minimum requirement would serve as the foundation for shared understanding needed for staff and subordinate units to operate effectively even in the absence of all other information. What should be the minimum requirement for shared understanding? Doctrine states the following:

> "Good staff members understand how to effectively communicate with their commander, and they can discern what information is vital to their commander's ability to command and control. They seek a shared understanding of the operational environment with their commander and with the commanders of both higher and subordinate headquarters. **This shared understanding includes the commander's visualization of the operational approach, including the commander's intent**."[24]

While doctrine does not specifically articulate a minimum requirement for shared understanding, it does emphasize and/or list the commander's visualization and intent the most. The commander's visualization is "the mental process of developing situational understanding, determining a desired end state, and envisioning an operational approach by which the force will achieve that end state."[25] "Commanders *describe* their visualization to their staffs and subordinate commanders to facilitate shared understanding and purpose throughout the force."[26]

Few if any WFX observations discuss or highlight the lack of commander's described visualization or intent as an issue. However, as seen above, they do reveal the obstacles that prevent the units from attaining this minimum for shared understanding. Commanders often use meetings like Command Update Briefs, Battle Update Briefs, and Decision Boards to provide their guidance and visualization. However, as discussed, units often fail either to capture the information, to clarify the key details, or to share the

information with others. Further, the high tempo and rapid changes associated with LSCO often force units to interrupt, shorten, or skip meetings, reducing the time and forums for the commanders to describe their visualization and intent.

With this, commanders should consider personally **writing** their visualization daily (or as needed) for their units. This would help alleviate several of these aforementioned issues while meeting the minimum requirement for shared understanding. In writing a visualization, a commander would ensure this minimum requirement of information is "captured" while also providing the command emphasis that demands its sharing.

Additionally, this solution would serve as a forcing function for commanders to allocate time in the battle rhythm to critically reflect on the overall situation. It would allow commanders to refine their visualization in a clear and concise manner with specified details to prevent misunderstandings and/or misinterpretations. It would help alleviate any confusion between a commander's speculations, "brainstorms," and deliberate guidance. It could also serve as a catalyst for feedback, where commanders may send it out to key staff leads and subordinate commanders for critique, discussion, and refinement prior to publication.

Moreover, units could rapidly disseminate this "min requirement" of information by various means. Commanders and subordinates could read it (word for word) over the radio or at the beginning of meetings, email it, display it in digital systems, post it wherever it may be needed, and publish it with every mission order. This command emphasis would also likely act as a driving function for staffs that struggle to consistently publish mission orders. Lastly, this written visualization could serve as the baseline interpretation of the COP to ensure "tacit knowledge" does not impede shared understanding.

Conclusion

Warfighter Exercises have highlighted units' perpetual struggle with shared understanding and knowledge management. While the leading issues are readily identifiable, the root causes and contributing factors are too numerous to allow for one overarching solution. With this, units may benefit from defining and ensuring a minimum requirement for shared understanding through the commander's described visualization and intent. A commander's written visualization will ultimately prevent the two leading issues by ensuring the capturing and driving the sharing of the minimum requirement of information for shared understanding. While this solution will not ensure perfect or complete shared understanding, it will allow units to have the minimum they need to continue to operate regardless of the other challenges to knowledge management.

---

[1] Several of the sources in this publication are linked to the Joint Lessons Learned Information System (JLLIS). This system is only available to authorized users. In order to access the site, you must establish a JLLIS account at https://www.jllis.mil.
[2] ADP 6-0, *Mission Command: Command and Control of Army Forces,* July 2019, https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN18314-ADP_6-0-000-WEB-3.pdf, 2-4.
[3] Ibid., 1-7, 1-8.

[4] Ibid., 1-8.

[5] FM 1-02.1, *Operational Terms*, 09 March 2021, https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN31809-FM_1-02.1-000-WEB-1.pdf, 1-20. * Italics and bold markings in doctrinal references are the author's emphasis.

[6] ADP 6-0, *Mission Command: Command and Control of Army Forces*, July 2019, 1-11.

[7] ATP 6-0.5, *Command Post Organization and Operations*, 01 March 2017, https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ATP%206-0_5%20(final).pdf, A-5.

[8] ADP 6-0, *Mission Command: Command and Control of Army Forces*, July 2019, 3-7.

[9] Ibid.

[10] CALL WFX 21-1, Observation 225368, "FUOPS (G-35) Planning Horizons," Joint Lessons Learned Information System (JLLIS), https://www.jllis.mil/apps/index.cfm?do=binders:binder.lessonview&binderid=42410&lmsid=225368, 26 OCT 2020, and CALL WFX 21-3, Observation 226701, "Capturing and Disseminating Commander's Orders and Guidance," JLLIS, https://www.jllis.mil/apps/index.cfm?do=binders:binder.lessonview&binderid=43060&lmsid=226701, 05 MAR 2021.

[11] CALL WFX 21-3, Observation 226701 and CALL WFX 22-1, Observation 231150, "Planning and Orders Process," JLLIS, https://www.jllis.mil/apps/index.cfm?do=binders:binder.lessonview&binderid=43775&lmsid=231150, 28 OCT 2021.

[12] CALL WFX 21-4, Observation 227416, "Knowledge Management," JLLIS, https://www.jllis.mil/apps/index.cfm?do=binders:binder.lessonview&binderid=43462&lmsid=227416, 03 MAY 2021.

[13] FY21.1 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, observation 2.30, pg. 28, https://usacac.army.mil/sites/default/files/publications/FY21_MCTP.pdf, January 2022.

[14] CALL WFX 21-3, Observation 226701 and CALL WFX 22-1, Observation 231150.

[15] CALL WFX 21-4, Observation 227416.

[16] FY21.1 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, observation 2.1, pg. 5 and CALL WFX 22-1, Observation 231150.

[17] CALL WFX 21-4, Observation 227416.

[18] FY20 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, observation 1.1, pg. 9, https://usacac.army.mil/sites/default/files/publications/18085_2.pdf, October 2020.

[19] ATP 6-01.1, *Techniques for Effective Knowledge Management*, 6 March 2015, https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp6_01x1.pdf, 1-4.

[20] CALL WFX 21-1, Observation 225368; CALL WFX 21-3, Observation 226701; CALL WFX 22-1, Observation 231150; and CALL WFX 21-2, Observation 225958, "Planning Compartmentalization," JLLIS, https://www.jllis.mil/apps/index.cfm?do=binders:binder.lessonview&binderid=42411&lmsid=225958, 10 DEC 2020.

[21] FY19 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, section 2.1.1 and 2.2.7, https://usacac.army.mil/sites/default/files/publications/20-15.pdf, JAN 2020.

[22] FY21.1 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, observation 2.1, pg. 5; FY20 Mission Command Training in Large Scale Combat Operations Mission Command Training Program Key Observations, Executive Summary, para., 2, pg. 6; and CALL WFX 21-4, Observation 227416.

[23]** According to ATP 6-01.1 (pg. 1-3): "***Tacit knowledge* is what individuals know; a unique, personal store of knowledge gained from life experiences, training, and networks of friends, acquaintances, and professional colleagues.** It includes learned nuances, subtleties, and workarounds. Intuition, mental agility, and response to crises are also forms of tacit knowledge."

[24] ADP 6-0, *Mission Command: Command and Control of Army Forces*, July 2019, 4-5.

[25] Ibid., 2-15.

[26] Ibid.