Training and Evaluation in a Complex Environment

by LTC Jeffrey J. Barta and MAJ Chase S. Baker

The Chief of Staff of the Army identifies his No. 1 priority as "readiness, and there is no other number-one priority." With that in mind, the best way to get after readiness is internally resourced and planned training with external control and evaluation.

Doctrine provides references on training management and training assessment, but it provides little guidance about formal evaluation and feedback mechanisms or methods currently employed by the observers/coaches/ trainers (O/C/Ts) at the combat training centers (CTCs) beyond the after-action review (AAR). So how does an element, unit or individual appropriately plan and provide doctrinally focused external assessment and evaluation? With that question in mind, we have identified 10 tenets and proposed a training and task outline that defines the O/C/T's observation and coaching opportunities to provide dynamic feedback in a high-fidelity, complex decisive-action training environment (DATE).

1. Relationship development. Many leaders use the phrase "relationships are our pacing item." This rang true for me as an O/C/T more than for nearly any other job in the Army. The overarching tasks of an O/C/T are to identify flaws, weaknesses and shortcomings of an individual, a unit or a group, and tell them in a way that enables positive change and growth. You must build a non-attributional relationship, based on mutual trust and respect, ensuring a counterpart knows his/her O/C/T has his/her best interest and development as a priority. If an O/C/T cannot provide effective, constructive criticism and input – early and often – and cannot maintain a completely open dialogue that encourages questions and learning, then the other nine tenets following are irrelevant because observations will fall on deaf ears.

2. Collect relevant information. One of the most critical O/C/T functions is collecting data and information objectively to build the backbone of the AAR, which is the primary mechanism for discussing areas to sustain, improve or increase proficiency. The process begins with product review, including observing the publication of orders and rehearsals. An O/C/T must be able to quickly read an order and key annexes, and must be able to understand the commander's intent and concept of the operation, while simultaneously visualizing the plan and identifying potential friction and missed opportunities in accordance with the scenario design. Shortcomings may include missing key products or details, but an O/C/T must know doctrinal planning to an extent that the root causes of the friction are nearly immediately apparent, thus enabling AAR production.

Figure 1. O/C/Ts observe a 3rd Stryker Cavalry Regiment combined-arms rehearsal at NTC in February 2016.
(Photo by MAJ Chase Baker)

For example, if a unit fails to produce a decision-support template needed to enable the brigade commander's decision-making in execution, is it because the staff ran out of time and/or because it did not adhere to the action/reaction/counter-action format of the course-of-action analysis (wargame)? An O/C/T must have both the knowledge and experience regarding required quality and level of detail to assess how the unit executed every step of the military decision-making process (MDMP) and troop-leading procedures (TLPs).

There are three primary areas an O/C/T should focus collection efforts against to identify potential friction points for the training unit. The first is comparing the unit's mission-essential task list (METL) self-assessment to the training objectives and overlaying both with the scenario design as described in the eighth tenet. If the METL assessment matches the remaining training foci, you can then derive that the unit is self-aware and the unit-identified training objectives will help focus the AAR. If the unit-identified training objectives do not correspond with the METL assessment, it may cause O/C/Ts to coach a unit to refine its objectives to enable appropriate feedback.

The second collection opportunity is leader engagements. This requires a rapid relationship build as described in the first tenet that enables early candid conversation of both personal, unit and subordinate strengths and weaknesses from your counterpart.

Lastly, understanding the unit's equipment status, capabilities and limitations helps develop expectation management within the scenario. Units conduct collective training at varying levels of readiness. If maintenance is low from the start and remains low, the unit will struggle to achieve necessary force ratios; logistics will quickly become a focus topic, overshadowing and distracting from other large collective tasks as the primary shortcoming.

Just like the intelligence-preparation-of-the-battlefield process, one of the most important outputs of information-collection planning is the development of priority intelligence requirements (PIR) that are supported by good refined intelligence requirements that enable subordinate O/C/Ts to focus their collection. Without PIR, observations become too broad to confirm/deny suspected issues or identify potential new ones, which leads to feedback that is "a mile wide and a foot deep." PIR should be developed as a collaborative process among O/C/Ts and should not change during the current mission or you risk having two incomplete data pulls. Lastly, the collected PIR should be objective and the result becomes a "sustain" or an "improve," depending on the context of the scenario design.

It's impossible to cover all the friction, mistakes and deficiencies during an AAR, so an O/C/T must separate which cyclic and enduring faults bridge the unit as a whole from those specific to an individual counterpart or small group. Those preventable mistakes and "low-hanging fruit" are great coaching opportunities to fix early and re-enforce as success later. This methodology not only increases individual and unit effectiveness exponentially, it enhances the O/C/T-to-counterpart interpersonal relationships and strengthens mutual trust, furthering the willingness to learn and accept constructive criticism.

3. Maintain common operational picture (COP). One of the most important tenets of successful evaluation is the COP. At the formal training centers as well as at Active Component and Reserve Component training sites, observers have access to exercise-control (EXCON) equipment related to Multiple Integrated Laser Engagement System, specifically the Combat Training Center Instrumentation System (CTC-IS). O/C/Ts should use these systems' complete capabilities, as well as the Army Battle Command System, Force XXI Battle Command Brigade-and-Below, Command Post of the Future and analog maps and graphics to maintain an understanding of the friendly and enemy picture.

The difference between an O/C/T's COP and the training unit's view is that an O/C/T does not have to have perfect "current operational picture," only a common one among himself, other O/C/Ts and the CTC-IS. This construct enables an O/C/T to develop the picture in minutes instead of seconds. This gives the O/C/T the time/space to confirm accuracy before reporting. This enables near-perfect battle summarization to determine exactly what happened. Much like good furniture begins with perfectly square lumber, a good AAR begins with precise data that a unit would be incapable of collecting itself.

4. Maintain technical competence. At the root of precise data collection is a technically competent O/C/T. The O/C/T must understand (in detail) the organization and capabilities of a unit, its enablers and all its mission-command combat and sustaining systems. An O/C/T must instantly recognize when a mistake is being made to capture the data because once the individual or unit has moved past that moment or event, it's nearly impossible to go back and recreate or capture the observation without becoming disruptive. Also, one must remember that to focus collection and know what system to observe, an O/C/T must have well-refined PIR as described in the third tenet.

5. Sustain tactical relevance. Once information collection is complete and a training objective, friction point or coaching opportunity is identified, it's imperative that an O/C/T can immediately apply the appropriate doctrinal reference to the situation. To do this, O/C/Ts must have an extensive doctrinal knowledge base, but he/she must also read the doctrine associated with the specific PIR or potential friction point ahead of time so as observation occurs, the doctrinal shortcomings become obvious. The ability to match a rotation's challenge to a doctrinal extract – and then tie it to the rotational construct and the outcome of the actual fight – establishes the basis for the AAR: identifying what was supposed to happen, what did happen, what we could have done differently and what to sustain.

6. Provide appropriate feedback. The ability to determine a feedback method and optimize both content and timeliness depends on an O/C/T's ability to determine the appropriate messaging tool and subject approach to use. There are many methods to provide feedback, but we'll focus on the CTCs' staples. Some topics are too detailed for counterpart hotwashes or "Green Book AARs." They require at least some, but possibly a significant, amount of instrumentation to present. In these cases, a formal, instrumented AAR is necessary. This forum usually relates to the broadest audience (command and staff) at any echelon. It strives to link observations across the warfighting functions much like an integrating cell within the staff. A detailed battle-action summary sets conditions about what happened, referencing hard data collected from PIRs, and it generates good questions that encourage active participation and self-awareness of the friction encountered.

AARs inherently address the problem, concluding with the unit designating an action officer to ensure follow-through. The optimal way is to ensure the AAR leads a unit to its own solution. In a time- or terrain-constrained environment, an O/C/T can still successfully execute an analog formal AAR, with the data pulled from PIR throughout the battle and a series of doctrinal "right way" printouts that can be displayed and discussed instead of the O/C/T-collected data. The visual aids routinely spur acknowledgement but often drive discussion as the training unit self-identifies more faults.

The most informal method is the "Green Book hotwash," preferably used in a leader-only or counterpart-only role. This method is best employed as feedback in the most time-constrained training environments or when the preponderance of AAR topics clearly points to key leader shortcomings and isn't appropriate to discuss in front of the entire unit.

Also, when applying answered PIR to the tactical outcomes, O/C/Ts must acknowledge that gaps in collection may lead to false negative assumptions. If there is friction, but the cause and effect is not available to present as an area to "improve" – either on a slide, CTC-IS screenshot or in hard data collected from the training unit – O/C/Ts should leave it out completely. O/C/Ts should look for another opportunity to encourage self-derived feedback from the unit. The most destructive thing you can do during feedback is present incorrect data to the unit and lose credibility or trust as described in the first tenet. Once lost, an O/C/T will not have time within the short remainder of a training event to rebuild it.

Lastly, "improves" are like fish; after a short time, they begin to stink and are no longer welcome. Feedback has a last-time-information-is-of-value mark. If a unit has changed its standard operating procedure (SOP), moved on from the friction or is now into another phase within the scenario, it is best not to include old data. An exception to this could be if an O/C/T is intentionally identifying a trend or direct comparison between two phases or periods. Overall, the common goal across all forms of AAR feedback is self-discovery and acknowledgement from the training unit. This is accomplished via presentation of precise and timely analysis from the O/C/Ts to derive improved performance the training unit.

7. Track emerging trends. The training teams' standing collection plan, as described in the third tenet, presents an opportunity to provide relevant feedback, not only to the training unit but across broader formations. The first noun in an O/C/T's title inherently positions him/her to observe many tactics, techniques and procedures across a variety of training units. When common challenges are observed across multiple units or innovative solutions are observed, O/C/Ts have an obligation to share this across the force, especially with future training partners. The U.S. Army Center for Lessons Learned (CALL) has the mandate to lead this effort through the analysis of information collected to become Army lessons-learned and shared across U.S. Army Training and Doctrine Command agencies and other major commands.

O/C/Ts should collect and collate their observations for submission to the Joint Lessons-Learned Information System (JLLIS) for CALL's use. O/C/Ts should have access to a JLLIS user with administrative permissions to upload and organize binders of lessons. This can also serve as a one-source location of knowledge to share with other professional contacts and the various warfighting-function (WfF) centers of excellence. A further important practice for O/C/Ts is to reach out to future training units and share lessons and trends with them. This will help the future unit more effectively prepare for its upcoming rotation as well as to assist the force as a whole to reverse negative trends and reduce the enduring warfighting challenges.

Lastly, an O/C/T must be an avid writer, sharing personal observations, lessons and increasing knowledge within the profession of arms. Participation in WfF symposiums, writing for Army journals and other professional venues is an O/C/T obligation to help shape the future force.

8. Know the scenario design. Throughout this article, the scenario design arises as a key tool to enhance feedback and training opportunities. One of the most important features of an externally evaluated training event is a well-integrated scenario that threads multiple elements together to create opportunities to train the selected tasks. It requires a great deal of planning to build an event that meets a multitude of individual and collective tasks simultaneously across echelon. The first step is to evaluate and forecast the trained/needs practice/untrained status of a unit following completion of its prior collective training. The higher headquarters must provide clear training guidance and endstate. The subordinate unit commander must also identify training objectives and the evaluation focus. Once complete, the planners can begin developing a threaded scenario. The primary events, such as a brigade attack or defense, provide the opportunity to exercise the primary WfF supporting the METL tasks, but it's the injects developed to keep the commanders and staffs engaged in the scenario that make a good training event great.

A good example of a thread could begin with an echelon-above-brigade Intelligence feed that provides a single-source report about a limited objective, such as a high-value target (HVT), in a town. The brigade is then tasked to conduct a raid, which is designed to interrupt their current plans cycle. The brigade then mission-commands two operations at once (the ongoing and the new one) and apprehends the HVT. The HVT then stresses the use of the human-intelligence control team but provides a warning of a spoiling attack. Concurrently, taking the HVT off the battlefield provides a threaded reduction in enemy information operations, but it causes an increase in local underground support because of some collateral damage. However, the brigade combat team (BCT) then must execute a decision to transition to a hasty defense or re-allocate reconnaissance assets in anticipation of a spoiling attack.

The actions based on this one pre-planned scenario event provides an AAR that covers all the WfFs, and it exercises multiple echelons simultaneously. The senior trainer or senior external evaluator should have multiple options within the scenario each day to increase or decrease the tempo based on unit performance. How much more practice is required against specific previously identified training objectives is a consideration in selecting these options. This may be accomplished as described in the ninth tenet.

9. Interface with higher-control (HICON) and EXCON. The HICON and EXCON are crucial nodes for maintaining the integrity of the scenario as described in the eighth tenet. They create the suitable training environment that will lead to increased performance in the identified tasks. An O/C/T must understand the role of each and be able to effectively interact with them to create the proper conditions for the training unit.

The HICON is responsible for the issuance of orders and collecting appropriate reports from the training unit. In rare instances or in smaller-scale events, the O/C/T can perform either of these roles. However, as described in the

first tenet, this may damage the relationship between the O/C/T and the training unit. When O/C/Ts provide direction rather than recommendations, it degrades the feedback's internalization because the unit will no longer self-discover areas for improvement. Instead, it will blame the O/C/T for providing bad directions. This phenomena of "the O/C/T said" erodes the ability to create improvement in training tasks and must be avoided through the use of HICON. However, the O/C/T must be closely tied with the HICON to ensure synchronization. It is important for O/C/Ts to review orders during the HICON staffing process to identify areas that the unit may misinterpret. This further allows the O/C/T to provide effective feedback through a deep understanding of the unit's directed mission and any constraints imposed by their higher headquarters.

The EXCON may overlap roles with the HICON or may be a separate entity, but in either case it is equally important for an O/C/T to liaise effectively with it to create the appropriate conditions necessary for each training task. This is accomplished by directing all resources involved in the training event, such as the opposing forces, roleplayers, constructive adjacent units and virtual enablers. The scenario drives the entire exercise, and the O/C/T must be able to affect this to best improve the unit. Furthermore, the EXCON provides many of the tools necessary for effective information collection, and it serves as the repository for the PIRs collected by adjacent team O/C/Ts that may impact others' counterparts.

The EXCON will maintain an SOP which all O/C/Ts must understand and help the training unit to understand. This allows for the implementation of battlefield effects that aren't able to be properly replicated. The EXCON SOP will normally contain standard reports that an O/C/T submits; they should keep these readily available.

Lastly, the EXCON is the invisible shield of safety responsible for managing risks involved in the training exercise, especially as it relates to elements outside of the training unit's control. O/C/Ts fall within this purview and must abide by EXCON regulations and enforce them among all elements operating in the training area. The readiness derived from a training event is never worth the loss of life, limb or eyesight. It's also never worth significant damage to equipment. O/C/Ts are the first line in a comprehensive EXCON plan to mitigate this, and they must effectively work together to minimize risk.

10. Sustain the trainer. The worst-kept secret in the Army is a day in the life of an O/C/T while assisting a unit. The rumors of barbecues, clean clothes and humvee camping are all true. O/C/Ts must have a short logistics tail, but conversely must be self-reliant and independent from the training unit. Any reliance on the training unit provides the opportunity for shortcomings to be blamed on the added stress of the non-organic sustainment requirements. Because O/C/Ts are not under the same internal stresses of the training unit and do not have the responsibility of significant leadership decisions, they should remain better rested, more professionally presentable and tactically patient than the training unit. O/C/Ts must be present for any significant activity taking place, including but not limited to, all MDMP/TLPs, conditions checks, rehearsals and execution as described in the third tenet.

However, not all O/C/Ts need be present for every event. For example, developing roles and responsibilities within an O/C/T team enables a rest and rotation plan. The logistics training team experts may be of little value-added while observing a BCT breach sequence, but they will provide critical reporting 12 hours after the fact during consolidation, reorganization and reconstitution. Conversely, company-grade trainers, who all share a similar "jack of all trades" zone-coverage concept, must ensure refit within their team while maintaining a consistent presence to observe TLPs. The best practice is to simply refit a third to a half of the team during the TLP timeframe and surge to full strength during periods of high-tempo combined-arms maneuver or wide-area security events.

The O/C/T's goal is not to be above it all or appear immaculate, but to maintain a professional and groomed appearance to enhance the reception of feedback. To quote a former senior trainer, "you don't have to look perfect, you just have to look better than the training unit." Properly sustaining the trainers is paramount to providing clear, level-headed feedback to the training partner. It also mitigates risk for trainers who often operate independently.

Figure 2. Bronco Team O/C/Ts in the field at NTC in July 2015. *(Photo by MAJ Chase Baker)*

Whether via eXportable Combat Training Capability, home-station training or at the CTCs, O/C/Ts are the first shaping operation to enable a unit to accomplish its training tasks. External evaluation is the gold-standard method of assessment for units conducting collective task-focused training, preparing for a CTC rotation or completing requirements prior to contingency operations.

This article and its accompanying proposed training and evaluation outline task list (Figure 3) provide 10 tenets for those serving in an O/C/T position. Adopting these means the O/C/T provides maximum value to his or her partnered unit. Filing the gap of O/C/T performance doctrine will not only improve O/C/T performance but improve the readiness of our force as a whole.

Task Number:	
Task Title:	Training and External Evaluation (EXEVAL) in a High-Fidelity Environment
Task Type:	
Proponent:	O/C/T
Task Data	
Conditions:	Given a unit in a training environment with an in-depth training scenario, adequate support infrastructure for both EXCON and HICON roles, and logistical support for both O/C/T and training unit support.
Standards:	Develop and execute a complex scenario design and provide professional, instrumented and externally evaluated feedback and oversight during home-station and auxiliary-station training.
Safety Notes:	In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, ***Composite Risk Management***. Leaders will complete a DD Form 2977, Deliberate Risk Management Worksheet, during the planning and completion of each task and subtask by assessing mission, enemy, terrain and weather, troops and support available, time available and civil considerations (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category to avoid heat-related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, ***NBC Protection;*** FM 3-11.5, ***CBRN Decontamination.*** Leaders must perform a risk assessment in accordance with ATP 5-19, ***Composite Risk Management***. Leaders will complete a DA Form 7566, Composite Risk Management Worksheet, during the planning and completion of assessing METT-TC.
Environment:	It is the responsibility of all Soldiers and DA civilians to protect the environment and to participate in the Army's Environmental Management System (EMS) at the installation where they are assigned.

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                         PERFORMANCE STEPS
 1. Relationship development
 2. Information collection
   A) review all unit products
   B) identify friction points
     I) training objectives
     II) leader engagements
     III) equipment status
   C) develop coaching focuses
   D) develop objective PIR that focuses data collection against identified friction and coaching
 opportunities
 3. Maintain a COP
   A) maximize use of enablers (MILES/IOS)
 4. Technical competence
 5. Tactical relevance (matching the appropriate doctrine to the problem)
 6. provide feedback
   A) determine the appropriate messaging tool
     I) AAR
     II) key leader engagement/counterpart hotwash
     III) working group
   B) synchronizing messages across all WfFs
 7. Track emerging trends
   A) Share the lessons with the force and strengthening the profession.
   B) Upload observations to JLLIS
   C) Share lessons with future training units
   D) Create knowledge through professional writing
 8. Scenario design
   A) maximizes training objective opportunities
   B) provides for cause and effect across all WfFs
 9. EXCON vs HICON implementation
   A) Liaise with HICON
   B) Liase with EXCON
     I) retrieve relevant information
     II) Submit appropriate reports
     III) Maintain a safe training environment
 10. O/C/T sustainment
   A) self-sustaining to maintain integrity of scenario
   B) Professional appearance to gain and maintain credibility
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PERFORMANCE MEASURES:	GO	NO-GO
1. Professional introduction to the training team		
2. Develop and collect pre-rotation PIR to identify initial coaching opportunities and potential rotational friction		
3. Maintain a COP		
4. Use appropriate doctrinal and technical references		
5. Provide formal AAR feedback		
6. Understand and maintain the scenario design through both EXCON and HICON		
7. Execute logistical operations transparent to the training unit		

ITERATION:	1 1	1 2	13	14	Is	IM	IT
TOTAL TASK STEPS EVALUATED							
TOTAL TASK STEPS GO							
TRAINING STATUS GO/NO-GO							

Figure 3. Training and evaluation outline task list.

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Acronym Quick-Scan

AAR – after-action review
BCT – brigade combat team
CALL – Center for Army Lessons-Learned
CGSC – Command and General Staff College
COP – common operational picture
CTC – combat training center
CTC-IS – Combat Training Center Instrumentation System
DATE – decisive-action training environment
EXCON – exercise control
HICON – higher control
HVT – high-value target
JLLIS – Joint Lessons Learned Information System
JMRC – Joint Maneuver Readiness Center
METL – mission-essential task list
MDMP – military decision-making process
NTC – National Training Center
O/C/T – observer/coach/trainer
PIR – priority intelligence requirement
SOP – standard operating procedure
TLP – troop-leading procedures
WfF – warfighting function