



Joint Center for Lessons Learned

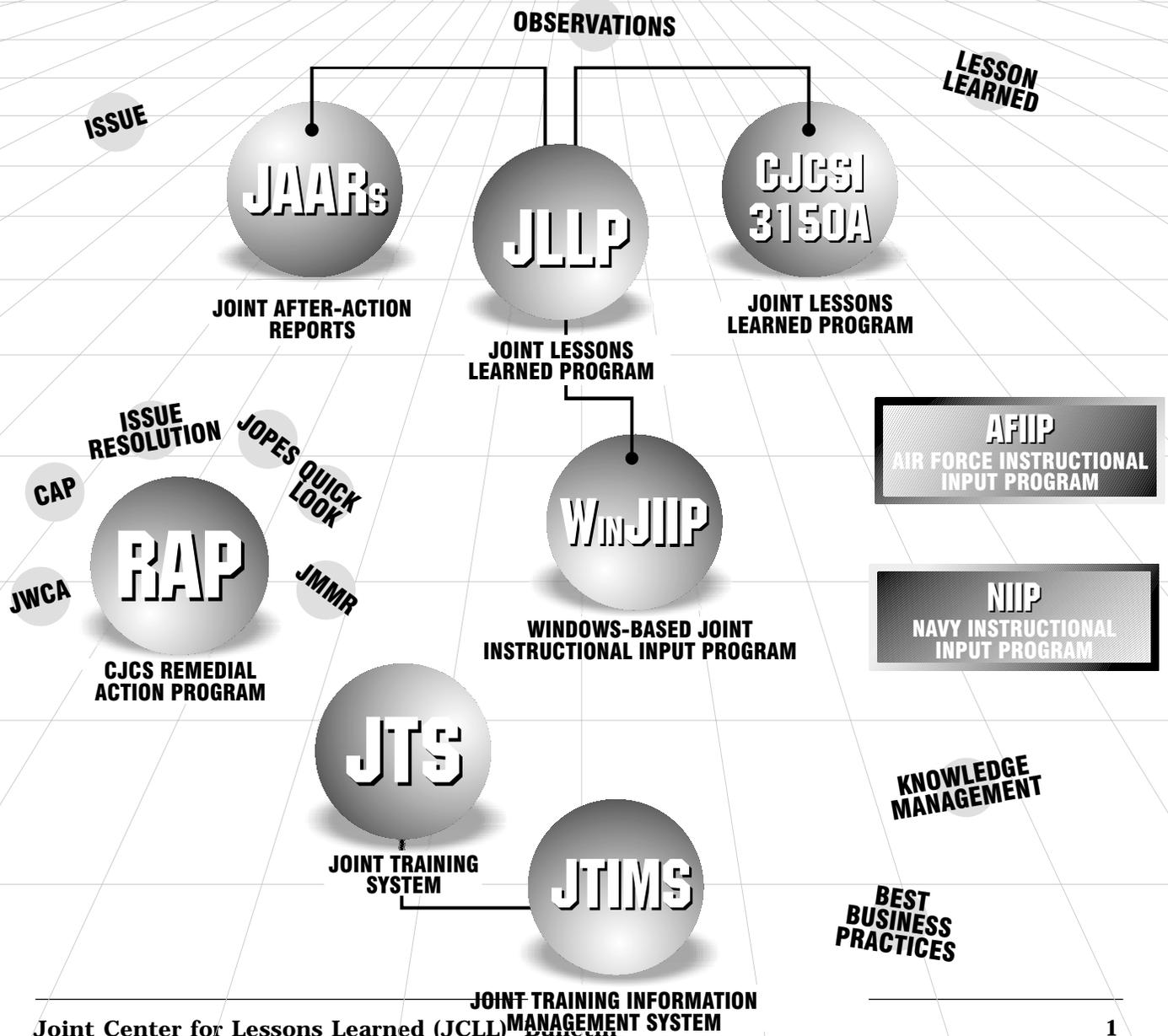
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From the Staff

The important lessons learned for all personnel to know are in the field with you, not with us. The JCLL has the mission and the means to share those lessons with the rest of the joint community. If you or your unit have a "lesson" that could help others do it right the first time, then send it to us. Don't wait until you have a polished article. The JCLL can take care of the editing, format, and layout. We want the raw material that can be packaged and then shared with everyone. Please take the time to put your good ideas on paper and get them to the JCLL. We will acknowledge receipt and then work with you to put your material in a publishable form with **you as the author**.

We want your e-mail address, please send your command e-mail address to us at jcll@jwfc.jfcom.mil. Our future plans call for electronic dissemination of various material.

REMEMBER!!!

TIMELY SUBMISSION OF INTERIM REPORTS, AFTER-ACTION REPORTS, AND LESSONS LEARNED RESULTS IN MORE TIMELY, QUALITY PRODUCTS AND ANALYSIS FROM THE JCLL STAFF.

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Message from the Commander

MG William S. Wallace, USA
Commander, JFCOM JWFC

This issue of the bulletin provides an update on joint lessons learned activities; an answer to “How can leaders make their units into organizations that learn from their mistakes”; and articles on three aspects of joint operations.

On 1 & 2 November the Joint Staff J7 and the Joint Warfighting Center will co-host the first **Worldwide Joint Lessons Learned Conference**. This issue’s first article outlines the primary goals of the conference and contains specifics about participant registration and preparation. The next article discusses the new Chairman Joint Chiefs of Staff Instruction 3150.25A, **Joint Lessons Learned Program**. In it a Joint Staff member describes the four major components of the JLLP and the impending changes to lessons learned reporting requirements. **Roadmap for the Joint Center for Lessons Learned**, the third article, was co-written by a JCLL analyst and a computer scientist from the Naval Research Laboratory. In the article the two discuss the components of the lessons learned process and how they fit together; review the status of the JCLL and its programs; and suggest goals for incorporating future developments and technologies into the joint lessons learned process.

Getting It Right Quickly, poses the question “How can leaders make their units into organizations that learn from their mistakes?” Major Fred Johnson, USA, dis-



cusses the need for units to learn from their mistakes and incorporate learning into operations.

Perceptions: Peace Operations is a reprint of an article that first appeared in an issue of *A Common Perspective*. In the article, the author outlines some broad perceptions about peace operations and explains his rationale for using the term *perceptions* vice *lessons learned*. The sixth article, **Combat Identification to the Shooter**, is from the All Service Combat Identification Evaluation Team (ASCIET) and presents lessons learned from ASCIET for preventing fratricide by friendly forces. The final article, **Challenges Facing Intelligence Support to the JTF**, is the second in a series exploring the demands upon the intelligence community in meeting today’s changing intelligence needs.

As always, your comments and lessons learned submissions are encouraged.

WILLIAM S. WALLACE
Major General, US Army
Commander, JFCOM JWFC

JCLL Update



Mr. Mike Barker **JCLL Director**

As this issue is going to print, we are in the process of planning the 1st World-wide Joint Lessons Learned Conference scheduled to take place 1-2 November. The conference is sponsored by Joint Staff J7/JEAD and hosted by the Joint Center for Lessons Learned, USJFCOM JWFC at the Joint Training, Analysis and Simulations Center (JTASC) in Suffolk, VA. The theme of the conference is "Forging a Future Joint Lessons Learned System". The conference is expected to establish a common framework to establish requirements for building a future Joint Lessons Learned Program. Combatant Commands, Combat Support Agencies, Services, and Federal Agencies are encouraged to attend. Civilian "knowledge management" personnel from both academia and the corporate world will also be invited to participate in this conference. The conference will focus on a range of initiatives, policies, and standards and serve as a forum for representatives to participate in development of a world-class lessons learned program. The conference format will include both formal presentations and facilitated discussions. You can view the conference web site at www.jwfc.jfcom.mil/dodnato/conferences/jcll. Once in this site, there are hotlinks to the JWFC Visitors Guide, conference registration, security clearance requirements, and JEAD and JCLL points of contact.

For the last quarter of the fiscal year, JCLL has one remaining exercise to provide support to - Ulchi Focus Lens 00. As with any exercise or operation, JCLL prepared a research report (read-ahead) of issues/observations/lessons learned broken down by functional code and presented to the JTF commander and his staff via the JWFC action officer. For FY01 JCLL is scheduled to support exercises Trailblazer, Agile Lion, Unified Endeavor 01-3/Fuertes Defenses, Team Challenge, Lucky Sentinel, and Unified Endeavor 01-4.

About the time this bulletin is released, CJCSI 3150.25A, Joint Lessons Learned Program, will be ready for signature and release by the Chairman. Changes/modifications directly affecting the JCLL and the joint community include 1) JAAR submission directly to the JCLL (A SIPRNET e-mail address is being established specifically for this purpose). 2) Designation of the JWFC as the principal provider of joint lessons learned support to the Combatant Commander, CSAs, OSD, and the Joint Staff. 3) JCLL-support to the JWFC and the Joint Staff for a limited number of training exercises annually, currently set at six (This support may include deploying JCLL personnel with the JWFC or the Joint Staff to exercise locations, conducting lessons learned research, or assisting Supported Commands with JAAR preparation during JWFC-supported exercises).

The latest initiative that JCLL has become involved with is CAPSTONE support. For anyone not familiar with it, CAPSTONE, which is run by the National Defense University, is designed to give new flag/general officers an overview into employing US forces in joint and combined operations. Part of that training takes place at the Joint Training, Analysis and Simulation Center (JTASC) with the JWFC Observer/Trainers (O/Ts) conducting both formal presentations and practical exercises. The O/Ts take the CAPSTONE Fellows through the lifecycle of a Joint Task Force (JTF) - Forming, Planning, Deploying, Employment, Transition, and Redeployment. As in exercise support, JCLL is assisting the O/Ts with their seminar preparation by providing research and reports from the Joint After-Action Report (JAAR) database and formal After-Action Reports.

That wraps up this edition. Don't forget the World-wide Joint Lessons Learned Conference, 1-2 November 2000.

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The Revision of CJCSI 3150.25, The Joint Lessons Learned Program

By Major John Lange

Organizations routinely gather, analyze, and apply lessons that have been observed during the course of daily activities and extraordinary events. They learn how to better execute tasks and achieve success, while avoiding previous mistakes, by applying this knowledge to their procedures and methods. The Joint Lessons Learned Program (JLLP) provides the guiding principles for the joint community to capture and share lessons learned information and benefit from the experience of others. The end result is improved warfighting readiness. The Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3150.25A, The Joint Lessons Learned Program (JLLP), is currently undergoing final review before publication. Revising the current Joint After-Action Reporting process offers an opportunity to refine and improve the procedures to share lessons learned.

The purpose of this revision is two-fold. First, it consolidates related lessons learned policies and references in one comprehensive Instruction. Joint organizations have conducted lessons learned activities formally and informally for many years, however, there has been neither a joint publication that describes the intent of the lessons learned process nor have the roles and responsibilities been clearly defined. Secondly, the revision intends to better educate program users about the processes, products and players in the Joint Lesson Learned Program. It strives to encourage active participation in the program.

The revised CJCSI incorporates several major changes in an effort to improve the current Joint After-Action Reporting System (JAARS) CJCSI. It expands the scope of the original instruction. While the original strictly focused on reporting procedures, this document describes the purpose, intent, components, and players in the Joint Lessons Learned Program in addition to outlining procedures for reporting. Unlike previous instructions, this document provides an explanation of the JLLP.

It describes the roles and responsibilities of the Joint Center for Lessons Learned (JCLL), the Joint Warfighting Center's management role, and the policy role fulfilled by the Joint Staff Directorate for Operational Plans and Joint Force Development (J7). The document also describes the many sources of lessons learned information and outlines the steps taken at different levels to process and forward information for the benefit of the entire joint community. While the process steps are generally the same at different levels, specific procedures and practices will vary by organization.

Recognizing operational burdens on unified commands in today's world, this revision decreases reporting requirements. Current policy requires commands to submit Joint After-Action Reports for each exercise in the CJCS Joint Training Master Schedule. Under the new policy, commands and the Joint Staff/J7 will coordinate a final list of exercises requiring JAARs prior to the start of the fiscal year. This policy change allows the unified commands to identify and report those exercises with the most potential for joint community impact. And while it will identify specific exercises requiring a report, it by no means precludes submission of additional reports by a command. Finally, the policy should lead to reduced reporting requirements and provide advance notice of required JAARs. To gain the most from operational experience, all operations predicated by a National Command Authorities (NCA) execute or deployment order require a report. Further, the new policy

includes a requirement for interim reports at the end of six months for long-term operations to capture useful information in a more timely manner.

The revision refines the Joint After-Action Report structure to simplify required reports. There are no longer different formats for operations and exercises. The standard JAAR now consists of a summary and supporting reports addressing applicable observations, lessons learned, and issues. While the summary provides the context for the supporting reports, the lessons learned, observations, and issues provide the substance from which others can learn. Higher quality information is the goal of simplified reports and decreased mandatory report requirements. The JCLL will capitalize on the improved information submitted in their efforts to provide useful and substantial lessons learned products for joint customers.

The revision of the Joint Lessons Learned Program CJCSI is the first step in improving the value of this program. Publication of this document marks the beginning of several initiatives, including the first ever World-Wide Joint Lessons Learned Conference this fall, to better serve the joint community. It provides purpose and clear guidelines for the Joint Lessons Learned Program in order to best use and benefit from operational experience. An improved Joint Lessons Learned Program is an enabler for more effective joint operational capability. In times of increased requirements and decreased resources, a strong program for sharing experience is a combat multiplier.

Major John Lange is the Joint Lessons Learned Program Manager in the Operational Plans and Joint Force Development Directorate, J7 Joint Staff. (Since submitting this article Major Lange has been reassigned to the Headquarters, Department of the Army)

Roadmap for the Joint Center for Lessons Learned

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Abstract

The purpose of this document is to develop an understanding of the components of a lesson learned process and how they fit together from the perspective of the Joint Center for Lessons Learned (JCLL). We also discuss the status of the JCLL, its lessons learned products, and provide a roadmap for what activities JCLL should support, including near- and long-term goals. Throughout we stress the potential utility of integrating appropriate technologies from artificial intelligence and knowledge management to enhance the lessons learned process.

“Lessons are only truly learned when we incorporate them into our planning, doctrine, tactics, and training.”

-Ervin J. Rokke, Lt Gen, US Air Force

Introduction

The Joint Warfighting Center (JWFC) became operational in 1994 and the JCLL, now a division within the JWFC, became operational in 1998. JCLL's notional mission is to collect, analyze, and distribute lessons learned, issues, and observations from operations, training events, and other sources to enhance the combat effectiveness and interoperability of the joint forces (JCLL, 2000). Thus, the JCLL must address issues such as deciding which formal methodology to adopt for collecting lessons learned (e.g., Joint After-Action Reports (JAARs)), how to represent lessons in a database (i.e., unclassified lessons on the Internet and also classified lessons on the military's secure SIPRNET), how to publicize information on the JCLL's database and activities so as to promote lesson sharing (e.g., through published JCLL bulletins), and what technologies should be incorporated into JCLL's lessons learned processes.

A foci of the JCLL's efforts is the Joint After-Action Reports (JAARs) database, which was developed for its customers (i.e., the Joint Warfighting community). When alerted to deploy a joint force to a contingency operation, US forces are expected to consult the JAARs database for lessons

learned from previous operations that are relevant to their current operation. Currently, 1900 active lessons are in the JAARs database.

Unfortunately, the software used for JCLL's efforts does not incorporate advances suggested in the knowledge management literature. We address its limitations in this paper, and focus on three types of goals we believe should be pursued to ensure the JAARs database will be a useful contribution to the Joint Warfighter's arsenal. First, we discuss immediate goals (1-3 months) that, if accomplished, would have a positive impact on JCLL. Second, we discuss near-term goals (3-12 months) that have a high probability of successfully improving the JCLL lesson learned process. Finally, we describe long-term goals that are required to continue improving the lessons learned process adopted by the JCLL for JAARs. Most of these actions will require the full active support and interest of senior leadership, and would benefit from a knowledge management focus.

We will address the full lesson learned process (i.e., collect, analyze, distribute) for each of these goals to provide a complete picture of the factors that are impacting JCLL both currently and in the future.

Immediate Goals (1-3 months)

JCLL's immediate goals are to eliminate the limitations of using 1980's X-base technology (e.g., dBase, Foxpro, Access). These goals deal primarily with the collection, analysis, storage, and data management of JAARs received from the Joint Service community.

Collection: Receiving JAAR reports

This is JCLL's most pressing immediate need. The X-base technology currently utilized is manpower intensive. Hopefully we can eliminate most if not all the manual physical movement of data.

The current process works as follows: JCLL staff

receives JAARs from combatant commands, the Joint Staff, from each of the armed services, some Department of Defense (DOD) agencies, and some federal agencies (e.g., FEMA). Most JAARs are on floppy disks, although some are received via e-mail, which will become the prevalent method for receiving them. These JAARs are then stored in a JAAR database, and an Excel spreadsheet is created (i.e., containing a record identification number, name of sponsoring command, date received, etc.) to track this JAAR from receipt to disposition. This spreadsheet and the JAAR database is then given to a senior analyst, who must decide how to maintain data integrity. Each reviewing analyst is given a copy of the entire working JAAR database, although edits can only be made to the senior analyst's copy. Finally, the JAAR database is divided into parts for each reviewing analyst so they can edit their respective parts. Afterwards, these parts are recombined when the review process is completed.

A more desirable collection process would import the JAARs to a central database, which would facilitate performing the remaining collection and data management processes seamlessly. Also, this process should be modified so that lessons can be collected in any format (e.g., MS Word, AmiPro, E-mail). This will require storing JAARs in such a way that someone conducting an analytical search (see next section) can understand a document's history and context. These are issues the JCLL can examine by collecting and storing all of the JAARs it has received. To organize this information, the JCLL may benefit from using tools provided by the Joint Digital Library System (JDLS, 2000). The objective of this effort is to minimize user search time and maximize user analysis results.

To ensure collection can be easily performed by individuals in the field with no access to a network, WinJIIP (Windows Joint Instructional Input Program), or a similar program, should be used. Furthermore, the capability to provide lessons learned information in dBase format must be maintained, and the collection software must also be compatible with the Joint Training Information Management System (JTIMS) (i.e., because lessons need to be gleaned from the Joint Training community).

Analysis

The purpose of analysis is to organize and evaluate information to identify lessons of Joint Service significance. The desired collection process described above, if implemented, would significantly reduce analysis problems.

Analysts focus on the benefit JAARs can provide by accurately retrieving JAAR records of interest. The primary attributes of interest in a JAAR are narrative paragraphs, which are all unstruc-

tured free text. To accurately retrieve JAAR records, the analyst needs a search tool that can perform full text searches. This capability would also allow JCLL analysts to evaluate information so as to identify lessons of "Joint Service significance," and to meet JCLL's mission responsibilities for disseminating lessons learned to any Joint Service member.

JCLL currently utilizes a commercial program, InMagic, Inc.'s DbtextWork, that provides the ideal set of full text search features. However, data must be put through a data format conversion process and then imported into DbtextWork before analysts can perform full text search..

Each of the three basic analytical processes requires a slightly different set of search capabilities:

1. Joint Service submitted JAAR review process. The objective of this process is to ensure each record's completeness, minimum quality standard, and to identify up to three related tasks from the Universal Joint Task List (UJTL). First, individual JAAR records should be selected for review and editing, if necessary. The system should support several different selection indices (e.g., sponsoring command, UJTL task entries, English phrase contained in narrative paragraphs). Second, the analyst should be able to mark each JAAR record with data management information (e.g., stage in processing, dates of receipt and start of processing stage, record disposition). Third, a completed JAAR record should become locked except by special request to the JCLL system administrator, who could permit a specific person to make changes and then re-lock editing. Fourth, analysts should be able to print selected JAAR records. Finally, the system administrator should be able to easily generate data management reports.

2. JCLL's analysis of JAAR databases and other information repositories. The objective of this process is to identify lessons from any source that is available, and to make identified lessons accessible to the entire Joint Service community. Searches will be primarily unstructured text phrase matching searches, requiring a full-text search tool that must support saving the search criteria and results set, and then expanding or narrowing the results set if desired.

3. Joint Service member analysis of JAAR databases and lesson learned information repositories. The WWW allows users to access remotely located information repositories. However, existing WWW search features are limited. Currently, both JCLL analysts and Joint Service members can search JAAR databases online. Because this

database depends on antiquated technology, the probability of a user finding relevant lessons is small. JCLL's information systems analyst should work closely with JDLS systems engineers to identify how to use JDLS tools (e.g., the Ontology Mapping Engine (OME)) to manage documents in the JAARs database, and to develop search capabilities that improve precision and recall for Joint Service members.

Distribution

This sub-process concerns sharing lessons learned information with all Joint Service members. It is the most difficult sub-process to viably accomplish, yet it is *crucial* to all other (i.e., collection and analysis) efforts. It is a common complaint from most "lessons learned" associated organizations that the current process is not achieving the results needed.

The current philosophy being employed in distributing or sharing lessons learned is "*Build it and they will Come*" (Kinsella, 1996) (i.e., from the popular movie *Field of Dreams*). The problem is, if you don't know it is there, you won't find it. The reason for this is there is so much information available electronically or otherwise that a user does not have time to sift through all the superfluous information to find the relevant information.

The current methods JCLL employs does provide some benefit, but not anywhere near what is required to ensure the required readiness of Joint Forces in this era of the "Information Age." For an organization to effectively learn lessons, many processes must take place so that the right information gets to the right person at the right time. This requires changing JCLL's distribution philosophy. Instead of organizations building an information entity which information seekers must locate and search to try to identify relevant information, they should instead build an information *fusion* system users can access anywhere, and which can automatically locate information relevant to a user's interest. We term this concept *user on-demand learning*.

JCLL is providing the Naval Research Laboratory's (NRL) Intelligence Decision Aids Group with lessons learned information on non-combatant evacuation operations (NEOs). NRL is using this information to demonstrate a user on-demand learning capability for extracting relevant lessons learned in their HICAP plan authoring software (Weber et al., 2000). HICAP provides a generic set of tasks that should be considered to execute a NEO mission. It then interactively walks a user through a series of questions to tailor the task list to a given mission. HICAP allows the decision-maker to completely

disregard the list or modify it in any way. During plan construction, HICAP prompts users with collected lessons if their conditions closely match the conditions of the plan being constructed for the current mission.

Near Term Goals (3-12 months)

JCLL's near term goals are to complete the evaluation of relevant software tools provided by the JDLS, including the Ontology Mapping Engine (OME), and to implement promising processes and capabilities identified during this evaluation and subsequent experimentation, that can contribute to JCLL's needs.

Collection

An important objective of this experimentation is to expand the collection of information beyond JAARs. One of the primary obstacles to having a viable lessons learned program is the lack of volume and quality information. One reason for this is that submitting a JAAR requires someone to invest a significant amount of time learning how to use the required JAAR software, and then spend the time to input information into the proper form.

With the capabilities of the JDLS, JCLL can allow operational personnel to submit text versions of the after-action report instead of requiring them to rewrite it in the many pieces required to fit in the dBase format of WinJIIP software. Collecting the text versions of a submitter's after-action report reduces their workload and increases the quantity and quality of information for JCLL and, therefore, the Joint Services.

This solves one problem but introduces others: how do we structure the storage of information so a user can identify and retrieve only the information they are interested in and need? JCLL perceives the OME as providing great potential in creating an information storage capability that will facilitate and ease the retrieval of relevant information.

Analysis

Hopefully, the capabilities the OME provides will lay the foundation for satisfying relevant information retrieval requirements. The first step towards retrieving only relevant information is to limit the results of a search to a specific segment of a document rather than the entire document. For example, suppose a user conducts a search using a specific knowledge set phrase (OME and HICAP will facilitate this capability) that yields a result table listing 10 documents as having relevant information. The user must not have to read through all of these documents, which may be hundreds of pages in length, to find the information that caused each document to be retrieved. Instead, the user should be taken to

the location in the document in which the phrase exists, although full-text browsing should also be supported.

We anticipate the search capabilities of JDLS tools will facilitate developing these functions. If these capabilities are not inherent in JDLS, JCLL will investigate using other commercial software products (e.g., Verity, DbtextWork).

Distribution

Further development of tools like HICAP and the distributed information capabilities of the Advanced Distributed Learning Network (ADLN, 2000) are needed to achieve the level of information sharing needed for effective lesson distribution. The JCLL must remain involved with the ADLN, and also understand how and where lessons learned information must flow within the ADLN so the right lessons can get to the right person, at the right time. Finally, the JCLL must continue to work with organizations like NRL's Intelligent Decision Aids Group to implement the user on-demand learning concept so they can be effectively integrated into the ADLN.

Long-Term Goals (12+ months)

The JCLL's long-term goals are to monitor the direction of the ADLN and ensure JCLL maintains a compatible path. ADLN's notional goal is to achieve communications connectivity between all DOD organizations using the Internet model, and to establish information sharing standards that will ensure all connected organizations can effortlessly share information. *Effortless information sharing* is defined as the process of collecting information DOD wide, while maximizing the number of organizations connected via an internet, so users have tools that effectively and efficiently allow them to retrieve only the relevant information they need.

Information sharing is a critical capability that must exist before the Joint Services can become a *learning organization* (Senge, 1990) and significantly increase the probability that all Joint Service-related organizations can achieve an acceptable level of readiness.

An idealized lesson learned process

Our long-term goals involve developing an ideal lessons learned process, which involves hundreds, and perhaps even thousands, of organizations that use an active knowledge management process to incorporate lesson learned. We also assume these organizations are connected in a distributed WWW environment that facilitates unhindered information sharing. Finally, we assume individuals are exposed, educated, and trained throughout their careers (i.e., from basic training to senior service school) about the

principles of the lesson learned process and *the critical part and responsibility each individual has in making it work*.

Unfortunately, this is a description of an unachievable, perfect world because organizations are continually created and dissolved, and completely unhindered information sharing cannot be achieved in an ever-changing world. However, many organizations do share voluminous information, and that sharing is transparently unhindered (i.e., automated security processes work behind the scenes to facilitate the appearance of unhindered information sharing). *Without information sharing, the concept of just-in-time information/knowledge management facilitated by technology will never work to our advantage*.

Collection

One of our long-term goals is that collection of raw information will be primarily automated. As documents are created, they will be evaluated as to whether they should be stored for reuse. If selected for reuse, their content will be automatically categorized and indexed. The document would then be stored in electronic form in a local digital library accessible to whoever requires this information. For the JCLL, this means we could access information being collected by all the combatant commands, armed services, and other DOD and federal lessons learned organizations.

These capabilities may evolve from the efforts of ADLN's Distributed Research Library (DRL). Because the Joint Warfighting Center's JDLS is a prototype for the DRL, the JCLL may leverage its experience with JDLS when integrating DRL software in its future efforts.

Analysis

In our long-term vision, analysis is conducted by whoever has the interest and initiative, independent of the subject matter, the analyzer, where they are located, or the time of analysis. Analysts will be using search tools that extract only those documents that are relevant to their search, searching hundreds of (on-line) libraries simultaneously. Instead of searching by using a single word, users will instead search using a *knowledge set* of phrases such as "*air power employment doctrine for denial of flight*" missions. After an analyst completes their analysis and documents it, the documents will be automatically evaluated as described in the long-term collection sub-process (see above). An analyst will be able to conduct one search that accesses all libraries and will return only those documents relevant to the search subject. Whenever they complete an analysis, it will automatically be stored so that it is available to all potential users.

The value of any lesson learned or knowledge management (KM) process is derived from a person absorbing information (analysis) and then synthesizing new ideas or concepts. This is learning, and it is the heart and soul of any lesson learned or KM process. Technology efforts should focus on reducing the time and effort required for an analyst to filter superfluous information from relevant information. The ultimate technological capability will be achieved when software can profile the user and select information based on the user's background and the context of the user's information search. Although some of these capabilities exist in KM prototypes (e.g., Johnson et al., 2000), none have yet been deployed that support all of these capabilities.

HICAP is one step in this direction for the military because it models a specific mission (i.e., deliberative planning for NEOs). Once it is tested and refined, all 57 other basic military mission types can potentially be modeled using HICAP. After that, it will be necessary to evaluate available and emerging technologies to determine what capabilities should be developed next.

Distribution

Our long-term goal is that distribution will be done from a user on-demand learning perspective. The numbers, types, and levels of possible lessons, or other knowledge artifacts, are infinite, which precludes using a single method/pipeline of information to ensure getting the right information to the right person at the right time. School houses, training centers, and many other specifically focused organizations will task individuals to search the ADLN in an effort to locate the most recent, relevant information that will allow them to make the best decisions possible. Military school houses and training centers will need to search the ADLN continuously to provide insight to new concepts so that, when students become decision makers, they will understand how to utilize this information and implement the new concepts. With this scenario, individuals within the Navy Kosovo Staff would have been aware of the USAF *Five Strategic Rings* Air Power concept, employed it earlier, and possibly shortened the operation. (However, this vision disregards the involvement of NATO and the impact of politicians.)

These capabilities will hopefully evolve from the efforts of ADLN. The Joint Warfighting Center's Joint Distributed Learning Center (JDLC, 2000) is a prototype for the ADLN. We hope the JCLL can take advantage of this and determine how to interface lessons learned processes with elements of the JDLC.

Conclusion

In this paper, we briefly introduced the mission of the Joint Center for Lessons Learned (JCLL) and then proposed its immediate, near-term, and long-term goals from the perspective of wanting to maximally promote information sharing activities. Our vision is one in which knowledge management (KM) plays an important role, the Joint Lessons Learned System is integrated with other relevant sources using software from the Joint Digital Library System, and the JCLL will continue to collaborate with other lessons learned organizations and research organizations committed to developing active lessons distribution processes.

Although most of these near and mid-term goals involve low-level objectives that do not require artificial intelligence (AI) techniques, several of these longer-range objectives specifically target the incorporation of state-of-the-art AI and KM techniques to enhance the lessons learned process in the Joint Lessons Learned System. These will include elicitation procedures for collecting lessons, digital libraries for providing access to additional sources of information, and active distribution techniques for providing lessons upon user demand.

References

- ADLN (2000). Advanced Distributed Learning Network. [<http://www.jwfc.jfcom.mil/j71/adln/index.html>]
- JCLL (2000). JW4000 Joint Center For Lessons Learned. [<https://www.jwfc.jfcom.mil/protected/jcll>]
- JDLC (2000). Joint Distributed Learning Center. [<http://www.jwfc.jfcom.mil/jdlc/>]
- JDLS (2000). Joint Digital Library System. [<http://www.jwfc.jfcom.mil/jdls>]
- Johnson, C., Birnbaum, L., Bareiss, R., & Hinrichs, T. (2000). War Stories: Harnessing Organizational Memories to Support Task Performance. *Intelligence*, 11(1), 17-31.
- Kinsella, W.P. (1996). *Shoeless Joe*. New York: Random House.
- Senge, P. (1990). *The fifth discipline: The art and practice of a learning organization*. New York: Doubleday.
- Weber, R., Aha, D. W., Muñoz-Avila, H., & Breslow, L.A. (2000). Active delivery for lessons learned systems. To appear in *Proceedings of the Fifth European Workshop on Case-Based Reasoning*. Trento, Italy: Springer

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Getting It Right Quickly

by MAJ Fred W. Johnson, XO, 1st Battalion, 314th Infantry Regiment, Fort Drum, NY

I am tempted to say that whatever doctrine the armed forces are working on now, they have got it wrong. I am also tempted to declare that it does not matter. . . . What does matter is their ability to get it right quickly, when the moment arrives. . . . When everybody starts wrong, the advantage goes to the side which can most quickly adjust itself to the new and unfamiliar environment and learn from its mistakes.¹

—Sir Michael Howard

This article addresses the question, “How can leaders make their units into organizations that learn from their mistakes and ‘get it right quickly?’” The question is important for several reasons. Most important, the lives of soldiers and success in combat depend on how well units learn from their mistakes. As a 1945 War Department pamphlet explains, “The old saying ‘live and learn’ must be reversed in war, for there we ‘learn and live;’ otherwise, we die. It is with this learning in order to live that the Army is so vitally concerned.”² Additionally, leadership doctrine and Officer Personnel Management System XXI direct that Army leaders build units which learn and adapt quickly. For example, the new officer evaluation report (OER) requires that officers be rated on how well they “foster a learning environment in their units.”³

However, leaders face many challenges in building units that truly learn. First, defining such an organization and then measuring the effectiveness of how well it learns is difficult. Second, only limited literature and doctrine provide the performance measures for unit learning. Third, tactical units are not structured to maximize unit learning and use it to their best advantage. Finally, as former Army Chief of Staff General Gordon R. Sullivan suggests, “the most difficult challenge is developing a culture that values this kind of learning.”⁴

Defining and Measuring Learning in Tactical Units

Defining the characteristics of an organization that effectively learns and quickly adapts to changes is an elusive challenge. Peter Senge’s *The Fifth Discipline* popularized the term “learning organization” among both civilian and military leaders. Senge defines the learning organization as one that is “continually expanding its capacity to create its future. . . it is not enough to merely survive. ‘Survival learning’ or what is more often termed ‘adaptive learning’ is important. . . . But for a learning organization, adaptive learning must be joined with ‘generative learning,’ learning that enhances our ability to create.”⁵ Sullivan adds, “As we, the leaders deal with tomorrow, our task is not to make perfect plans. . . . Our task is to create organizations that are sufficiently flexible and versatile that they can take our imperfect plans and make them work in execution. That is the essential character of the learning organization.”⁶

These two definitions do not offer much to a new second lieutenant — or to a battalion commander, for that matter. The real question remains unanswered: “How do I know when I have a learning organization?” The above definitions suggest two ways a leader can measure how well his unit learns.

The most obvious method to measure a unit’s ability to learn is when the unit stops making the same mistakes. To measure this requires that mistakes be identified, which normally occurs during after-action reviews (AARs). After identifying a mistake and rectifying the error, leaders must establish a system to catch repeated mistakes. The system must also be able to determine whether other units within the organization share this problem. If there is a trend within the entire organization, training plans must be developed to reverse the trend.

Soldier participation in AARs is another way to determine how well the unit learns. There are at least four reasons why soldiers do not participate in AARs:

- **The unit may have performed the task perfectly, and the AAR participants have nothing to add.**
- **Perhaps the soldiers are afraid to say anything for fear of reprisal from their chain of command.**
- **The facilitator may perform a critique rather than an AAR and not allow the soldiers to participate.**

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- **The soldiers may not know doctrine well enough to make an informed decision on the unit's performance.**

The last three reasons for lack of participation during AARs are symptoms of an organization that fails to learn effectively.

The above comments represent just a few ways to gauge the degree to which a unit learns. Other examples range from the intangible standard of the unit's level of initiative (reflected partly when executing imperfect plans) to the quality of written AARs. However, it is important to remember that, "You probably never become a learning organization in any absolute sense; it can only be something that you aspire to, always 'becoming,' never truly 'being.'"⁷ Defining a learning organization is a start to becoming. However, clear and succinct doctrine can guide the way.

Limitations of Doctrine

The Army has been an evolving learning organization since Baron von Steuben trained the soldiers of the Continental Army at Valley Forge. Von Steuben adjusted the Prussian military system to unique American characteristics and wrote the *Blue Book*, which was the U.S. Army's first warfighting doctrine. However, it was not until World War I that the Army began to develop a learning doctrine, "the Army's first such organizational effort at contemporaneous lesson learning, and each succeeding war steadily improved the machinery and raised the level of general awareness."⁸



Organizations with staffs focused solely on gathering, analyzing and disseminating lessons were established during each war; however, those organizations disbanded after the wars ended. This was the case until 1985, when the Army established the Center for Army Lessons Learned (CALL). In 1989, Army Regulation (AR) 11-33, *Army Lessons Learned Program: Development and Application*, established CALL as the focal point for the Army's lessons learned system.⁹ The next year, FM 25-101, *Battle-Focused Training*,

was published, providing the procedures and standards for conducting AARs. The new FM 22-100, *Army Leadership*, establishes "learning" as a senior leader action. These three publications guide leaders in creating learning organizations. They are good documents, but they inadequately address the problem.

AR 11-33 focuses on the Armywide lessons learned program without providing guidance on how units should learn lessons. It does, however, mandate that units provide lessons to the Army system through CALL. The regulation requires that major Army commands (MACOMs) provide CALL with "after-action reports or other appropriate observations. . .significant objective and subjective observations and insights within 120 days of each combat training center (CTC) rotation. . .and semianual synopsis of significant trends."¹⁰ Interviews with personnel at CALL reveal that this is simply not happening. Rarely, if ever, does CALL receive such reports from the MACOMs.

There are several possible reasons for this breakdown. AR 11-33 is a rather obscure regulation, and it is possible that its directives are not being enforced because no one knows that they exist. However, the disconnect is much more subtle — lesson learning within the Army occurs at two levels: the "local circuit" and the "Armywide circuit."¹¹ The problem is the lashup between these two circuits.

The Armywide circuit falls under the responsibility of CALL. For the most part, CALL has successfully collected and disseminated lessons through both active and passive means. CALL actively collects lessons by deploying Combined Arms Assessment Teams (CAATs) to observe and document lessons from training exercises and real-world contingency operations. CALL passively collects lessons through the submission of articles and observations from individual officers, soldiers and civilians in the field. CALL also collects information, both actively and passively, from the CTC. In all cases, the material is then published in newsletters, bulletins or placed in the CALL database — all are accessible through CALL's website at <<http://call.army.mil>>.

The failing circuit is at the local level — with the squads through the divisions. CALL does receive articles and observations from selected individuals; however, there is no concerted effort at the

division level and below to collate usable lessons in the form of AARs and then submit them to CALL. There are at least three possible reasons for this. The first is that units are not conducting AARs, which is doubtful since our doctrine clearly requires AARs after all training events. The second possibility is that AARs are not being conducted to standard; therefore, learning is not happening to its fullest potential. Finally, systems may not be in place to collect AAR results and submit them to CALL.

The very heart of the Army's ability to grow, particularly at the tactical level, is deeply rooted in the AAR process. Through AARs, units internalize lessons that soldiers discover. The AAR process marked the turning point for the U.S. Army in institutionalizing organizational learning by ingraining "respect for organizational learning (and) fostering an expectation that decisions and consequent action will be reviewed in a way that will benefit both the participants and the organization, no matter how painful it may be at the time. The only real failure is the failure to learn."¹²

The AAR, although a powerful vehicle for unit learning, must be performed to standard to realize its true benefit. **FM 25-100, *Training the Force***, summarizes those standards as "a structured review process that allows training participants to discover for themselves what happened, why it happened and how it can be done better. The AAR is a professional discussion that requires the active participation of those being trained. An AAR is not a critique."¹³ For the AAR to be anything less than a professional discussion with the active participation of all those being trained undermines a unit's learning environment.

Most units probably conduct AARs regularly but not necessarily to standard. One study found that "the majority of AARs are not problem-solving sessions, nor are AAR leaders following doctrinal AAR guidance with respect to discussion participation."¹⁴ If this is the case, the Army's system for learning is in trouble. However, if units are performing AARs to standard, the disposition of the lessons still remains.

AAR results often remain localized. FM 25-101 provides the standards for conducting AARs but does not require recording the results. Therefore, only the unit that learns a lesson from the AAR process benefits unless the knowledge spreads by word of mouth — a major failing in the Army's learning doctrine. Units must have systems to archive the results of AARs and then disseminate those results throughout the entire organization and eventually to CALL. Without such sharing, the entire Army lessons learned program is in jeopardy. However, the reason for this failure may be that tactical units are not structured within their staffs to use the information from AARs to their best advantage.

Restructuring Tactical Units to Facilitate Learning

For maximum learning, efforts to collate, analyze and disseminate information must be centralized. For tactical units, a central agency must be responsible for collecting, analyzing and disseminating lessons. It makes the most sense that the G3/S3 is the focal point for collating lessons in tactical units. These staffs are responsible for facilitating training; during peacetime, most lessons occur during training events; the routine training reports should include AAR comments. However, this is not normally the case. **FM 101-5, *Staff Organization and Operations***, does not designate a staff with responsibility to collect, analyze and disseminate lessons. The Army has identified CALL as its institutional "focal point" without delineating organizational responsibilities.

This lack of staff structure produces decentralized, local and ad-hoc learning. The entire organization does not benefit from the lessons gained. Until doctrine mandates responsibility for centralized collection and dissemination of lessons in tactical units, uniformly sharing those lessons across the Army is unlikely. This is not to say that leaders cannot implement such a structure within their units. However, that would require creating a unit culture that promotes learning to its fullest potential.

The Learning Culture

One does not normally associate the idea of culture to small groups, such as platoons, companies and battalions, but rather to whole societies. Still, culture can powerfully influence units to value learning. The leader is central to developing organizational culture and uses several mechanisms, each important to sustaining learning.

A unique and clearly articulated ideology. Leaders need not go beyond FM 22-100 to establish the

learning ideology of their units. The key point of the manual is that the leader “makes or breaks” a learning organization. The leader sets the tone for the unit by establishing how well he or she listens and takes advice, sometimes sounding like criticism, which for some leaders is difficult to take. If the leader is not willing to learn, it is unlikely that the unit will learn to its fullest potential. The command climate must welcome ideas from every soldier on how to improve the unit.

Repetitive socializing and training in key cultural values. Leaders and soldiers must be trained in the proper procedures for conducting and participating in AARs. Since participation is the cornerstone to good AARs, soldiers and leaders must be aware of what they have learned and encourage one another to articulate the lessons in an open forum. Thus, knowing Army doctrine and established tactics, techniques and procedures is key to becoming a learning organization. Soldiers and leaders must know what they do not know when the time comes to evaluate mistakes.

Probably the best way to socialize soldiers and leaders into the learning culture is to institutionalize a variation of the AAR into every activity a unit conducts. A quick AAR can be conducted after motor stables, road marches, physical training and even command and staff meetings. Another technique: every day before the close of business, assemble the leaders and ask the simple question, “What have we learned today?”

Appraise and reward behavior consistent with the desired outcome. With the new OER, the Army has established a way of rewarding leaders for promoting learning in their units. For soldiers and NCOs, it may be somewhat more difficult, other than saying, “good job.” However, publishing their ideas is one way to reward those individuals. This is not difficult and is essential to the total Army Lessons Learned Program. Being published in a CALL bulletin should have some bearing on qualifying for an “Excellence” in the competence block of the Noncommissioned Officer Evaluation Report. Regardless of the professional benefit, seeing one’s name in print is often reward enough.

Organizational design that reinforces key cultural values among all members. The problem of suboptimal structure within tactical units has already been discussed, but there is a powerful link between an organization’s structure and its culture. While Army doctrine does not address how to structure a learning organization within a tactical unit, leaders can still configure learning systems within their units. Some of these techniques have already been identified. However, the best way to illustrate the point is by providing a recent example.

During Operation JOINT ENDEAVOR, the 1st Armored Division (AD), commanded by Major General William Nash, effectively established a model learning culture for units both in peacetime and during contingency operations.¹⁵ The 1st AD was the nucleus of the “Multinational Division-North (MND-North),” one of three multinational divisions forming the Implementing Force (IFOR). MND-North, or Task Force (TF) Eagle was to help implement the requirements outlined in the General Framework Agreement for Peace (GFAP), which the former warring factions of Bosnia-Herzegovina had signed on 14 December 1995.

Nash’s program centered on the brigades within his TF. Each TF brigade was required to conduct frequent AARs. The information from the AARs was documented and submitted to the division headquarters through CALL’s team chief, who was in charge of CALL’s collection effort in Bosnia. The team chief initially worked directly for Nash, but, on subsequent CAATs, the team chief worked for the G3. The information usually passed via e-mail or on the Maneuver Control System (MCS). The team chief or his designated representative would then analyze the information and write what came to be known as “The Latest Lesson Learned” bulletin. Nash would review the bulletins and those approved would be disseminated to all platoon-size TF units. A new bulletin would be disseminated every 72 hours in paper copy, through the MCS and on e-mail. Additionally, a “Lessons Learned” e-mail folder allowed all units easy access.



The key component of the process was the AAR. The brigades required all platoons to conduct AARs and document the results. The battalion S3s maintained copies of the AARs and archived them. Additionally, at least once, Nash facilitated a TF-level AAR after the TF had experienced several “mine incidents.” For this particular AAR, the brigades were required to develop mine-awareness packets that contained the results of the platoon-level AARs and the lessons from the mine incidents. Each brigade commander was required to brief the significant findings from the AARs.

The TF Eagle model for learning provides a methodology for leaders at every level throughout the Army. Keys to learning lessons:

- **Leaders must mandate that AARs occur frequently.** At a minimum, after all peacetime training events and after completed missions during contingency operations.
- **The results of the AARs must be documented and archived.** There must be a system to identify mistakes and “relearned” lessons. If this is the case, the unit may have a systemic problem to address. One TF battalion addressed the status of “lessons learned” from previous AARs. The commander required leaders to describe the steps implemented to prevent recurring problems.
- **There must be a system to disseminate the lessons.** As organizations become more automated, this sharing is easier, although smaller units may still rely more on oral and hard-copy dissemination particularly at company level and below. The requirement to maintain written copies of the lessons remains.
- **The lessons must come through a central agency for analysis before they are disseminated.** Nash pointed out that “Lesson learning is dangerous business.”¹⁶ Leaders must ensure soldiers do not learn the wrong lessons. What may have worked in one instance may have been an anomaly.
- **The unit leader must establish an environment that facilitates a “learning culture.”**
- **Clearly, the CALL CAAT greatly facilitated collection and dissemination of lessons learned.** On major contingency operations, a CAAT will likely deploy with the unit. Nash used the CAAT as part of his staff. However, such a system, with or without a CAAT, must be established.

One may ask, “What benefit did TF Eagle gain?” In an environment where death or injury was literally a step away, casualties to mine incidents were very few. Other lessons included everything from conducting joint patrols with the Russians to techniques that prevent tent fires.

The most prominent example is probably the overall success of the mission in Bosnia, where only two-and-a-half years ago the former warring factions were intent on making one another extinct. The Turkish market in Sarajevo, where citizens now walk free from mortar attacks, shows the fruits of our soldiers’ labor in Bosnia. Our soldiers’ ability to learn and adapt to an ambiguous environment has contributed to that success.

The leader with the imagination and the will to create a learning organization can do it. The key is creating a “learning culture” within the unit. The leader must articulate a learning ideology and establish the standards for learning in the organization. Those standards must be routinely reinforced, and new members of the unit — particularly leaders — must receive training on key components of the program, such as how to conduct AARs. The results from AARs must be documented, disseminated, archived and readdressed when systemic problems are identified.

Leaders are the focus of every unit’s learning program. The success of the program depends on leaders’ ability to sustain an environment that encourages learning as a unit value. After the first six months of Operation JOINT ENDEAVOR, Nash said, “The impact of sustained operations should be, for our junior leaders, a career-defining experience that internalizes in their professional

souls the lessons of doing things right. We must take advantage of this unique opportunity to create a cadre of professional soldiers who are able to sustain operations to standard and have the moral courage to do what's right all the time."¹⁷ Every day, wherever soldiers are deployed, whether in training or on a contingency operation, the opportunity to internalize lessons confronts leaders who are willing to learn.

1. Howard, Michael, "**Military Science in the Age of Peace**," *RUSI*, Journal of the Royal United Services Institute for Defence Studies (March 1974), pg 6.
2. U.S. War Department, ***Lessons Learned and Expedients Used in Combat: Pamphlet 20-17*** (Washington, DC, July 1945), pg iii.
3. *Learning* is a rated block on the OER. Raters are to evaluate officers both on individual learning and on unit learning. The new **U.S. Army Field Manual (FM) 22-100, *Army Leadership***, 31 August 1999, also identifies learning as a "senior leader action."
4. Sullivan, Gordon R., and Harper, Michael V., ***Hope Is Not A Method*** (New York: Times Business, 1996), pg 197.
5. Senge, Peter, ***The Fifth Discipline*** (New York: Doubleday Publishing Group Inc., 1990), pg 14.
6. Sullivan, pg 189.
7. Sullivan, pg 193.
8. Vetock, Dennis J., ***Lessons Learned: A History of U.S. Army Lesson Learning*** (Carlisle Barracks, PA: U.S. Army Military History Institute, U.S. Army War College, 1988), pg 127.
9. **Department of the Army Regulation 11-33, *Army Lessons Learned Program: System Development and Application*** (Washington, DC: U.S. Government Printing Office (GPO), 1989), pg 5.
10. AR 11-33.
11. Vetock, pg 127.
12. Sullivan, pg 193.
13. **U.S. Army FM 25-101, *Training the Force: Battle-Focused Training*** (Washington, DC: GPO, 1990), pg 5-2.
14. Gubler, Justin, "***Unit Simulation Training System After-Action Reviews (AARs): A Novel Approach to Achieve Effectiveness***" (Master's Thesis, University of Central Florida, 1997), pg 139.
15. I spent six months in Bosnia as a CALL collections officer, three months were with the 1st Brigade, 1st Armored Division, commanded by COL Greg Fontenot; and three months in Tuzla, Bosnia, as the CALL team chief, responsible for collecting, analyzing and disseminating lessons throughout the TF.
16. Center for Army Lessons Learned, ***Operation JOINT ENDEAVOR Initial Impressions Report: Initial Operations*** (Fort Leavenworth, KS: U.S. Army Combined Arms Center, 1996), pg iii.
17. Center for Army Lessons Learned **Newsletter No. 97-12, *Tactics, Techniques and Proce-***

Editors Note: This Article, ***Getting It Right Quickly***, was previously published in the Military Review, Mar-Apr 00, and in the News From The Front, Mar-Apr 00. We believe Major Johnson's Article presents some very good points concerning after-action reviews and lessons learned and merits dissemination to the Joint community.

Perceptions: Peace Operations

By Richard J. Rinaldo

Our vision is more obstructed by what we think we know than by our lack of knowledge.

~ Kristen Stendahl ~

Perceptions, lessons learned or to be learned, issues?

The purpose of this article is to outline some broad, selective perceptions about peace operations¹ and to suggest some structure and sources for accessing the enormous body of information available to military peace operations practitioners. The term “perceptions” is used here instead of “lessons learned” for several reasons.

Although the term “lessons learned” is defined in joint training literature, in some Service doctrine, and by some allies, it is not included in JP 1-02, the official DOD dictionary. The US Coast Guard defines a lessons learned as “learning by that most memorable and painful of teachers - Experience.”² The US Navy discusses lessons learned in some detail—“Definition and Criteria. A lesson learned, after action report, or port visit report is information that expressly and specifically contributes to the Navy’s established body of knowledge. They should reflect ‘value added’ to existing Navy policy, doctrine, tactics, techniques, procedures (TTP), organization, training, systems or equipment.” Specific criteria to qualify a submission to the navy lessons learned data base include:

- Identifying problem areas, issues or requirements and, if known, recommend solutions,
- Contributing new information on existing or experimental TTP, policy or doctrine,
- Providing information of interest in planning, execution, application or employment of an organization, system, process, or procedure (e.g., theater operating directives, pre-deployment preparation requirements, scheduling considerations, procedure/system checklists, visiting ports, etc.).

- As feasible, identifying the assigned tactical level task and required operating capability/prospective operating environment to conduct the evolution, exercise, event, and/or operation, and
- Identifying, when possible, a specific assignable and accountable action on the part of a cognizant Navy command to create, update, modify, clarify or cancel all or a portion of an applicable reference source.”³

US Army, Air Force, and Marine Corps dictionaries are silent on the topic.⁴

The Canadian Army’s Lessons Learned Centre, defines lessons learned as “something which results in a change to our equipment, training, doctrine, organizational structure, SOPs, tactics or, most importantly, a change in our behavior.”⁵

The definition included in CJCSM 3500.03 is:

lesson learned.

1. A technique, procedure or work around that allowed the task to be accomplished to standard based upon a identified shortcoming or deficiency within a specific command or circumstance which may be applicable to others in similar circumstances.
2. A changed behavior based upon previous experiences which contributed to mission accomplishment.

Often this definition is functionally applied loosely to experiences and “lessons learned” are written as “issues,”⁶ critiques, accolades, or prescriptions for improvements in doctrine, training, leader development, organizations, materiel, and people.⁷ Using the strict CJCSM definition of “lessons learned” or “issues” would limit our perspective, perhaps leaving too much of value unnoticed. The rationale that “lessons learned” might better be called “lessons to be learned,” to wit, that “A lesson is not learned un-

til behavior changes” suggests further limitations to the term.⁸

Second, the scope of information available suggests that a broader approach would be more beneficial, encompassing doctrine, lessons learned in their broadest sense, and other literature from a variety of sources.

Finally, “perceptions” offers a less authoritative and binding approach to available information, though use of the term is not without precedent. It is used by the Exercise Analysis Branch, Joint Warfighting Center in discussing selected observations of analysts in numerous exercises. It is also used by the Army’s Battle Command Training Program to provide feedback to Army forces in the field.⁹

US and Multinational Doctrine

Available doctrinal information about peace operations is bountiful. Recently published JP 3-07.3, “Joint Tactics, Techniques, and Procedures for Peace Operations”¹⁰ is broad in scope addressing most aspects of such operations. It includes an appendix of historical examples and “lessons learned” mentioned in the text as well as a robust listing of references and additional “lessons learned.” It includes a glossary of US, NATO, and UN terms. The second edition of the Joint Task Force Commander’s Handbook for Peace Operations,¹¹ accompanied by a Peace Operations CD-ROM of selected policy, joint, Service, and allied doctrine, training literature, lessons learned, books, papers, and more, is also an excellent resource, which complements official doctrine. The Army’s FM 100-23, *Peace Operations*,¹² currently under revision, is still valid as another resource. Specific NATO doctrine for peace operations (called peace support operations) is under development.¹³ Chapter I, “Primer for Peace Operations” of JP 3-07.3, discusses US and multinational doctrine development and terminology.

In that regard NATO, the US, and others differ on choice of words and typology of operations, but not about essentials. The conferences, doctrine, military exchanges, “lessons learned,” policy, and academic study and literature of the last decade of the century has driven a convergence of multinational approaches to

peace operations.¹⁴ Much of this convergence validates the key variables of peace operations as consent, impartiality, and the use of force.¹⁵

Lessons Learned

The lessons learned community, however the term may be defined, provides a wealth of useful information about peace operations. The Joint Center for Lessons Learned (JCLL), USACOM [editor: now “USJFCOM”] Joint Warfighting Center manages the Joint After Action Reporting System (JAARS) Database. The mission of the JCLL is to: “Collect, process, analyze, distribute, and archive lessons learned, issues, and key observations from operations, training events and other sources to enhance the combat effectiveness and interoperability of joint forces.”¹⁶ The lessons learned are linked to the Universal Joint Task List (UJTL) Version 3.0. A work in progress, JAARS should support joint training, exercises, and operations as the database links more comprehensively with the UJTL, where tasks can be reviewed for applicability to peace operations. The database is available on the JCLL Secret Internet Protocol Routing Network (SIPRNET) website.¹⁷ The JCLL also publishes The Joint Center for Lessons Learned Bulletin, available at an unclassified but password protected web site.¹⁸ Relatively new, the bulletin includes well-crafted discussions of CJCS Commended Training Issues, lessons learned about specific UJTL tasks and “Golden Nuggets” of significant JAARS entries. The Winter 1997 edition included discussions of Force Protection, Interagency Operations, Rules of Engagement, and Non-combatant Evacuation Operations, for example—all to some degree applicable to peace operations.

The U.S. Army’s Center for Army Lessons Learned (CALL) collects and analyzes data from a variety of current and historical sources, including Army operations and training events, and produces lessons for military commanders, staff, and students. CALL disseminates these lessons and other related research materials via a variety of print and electronic media, including a web site.¹⁹ Its homepage is a door to other valuable sources of information, to include Joint and service doctrine, State Department and Central Intelligence Agency coun-

try overviews, and the comprehensive Foreign Military Studies Office (FMSO) homepage. The CALL database has over one and a half million pages of operations orders and after action reviews, to include *Initial Impressions Reports*, normally for official use only. CALL also publishes *Special Editions* focused on a specific operation, such as those in Bosnia, and *News From the Front*, which include short articles that focus on solutions to specific problems and longer *Newsletters*, which provide tactics, techniques, and procedures for units. CALL products are both unrestricted and restricted with the latter requiring a userid and password. A valuable recent addition to the site is *Non-Government Organizations (NGOs) Active in the Kosovo Region: A Primer* produced by FMSO. It includes doctrine, discussion about NGOs, other references, and links.

The Air Force maintains its lessons learned site available only to military users through its Air Force Doctrine Center at Maxwell AFB.²⁰ The Marine Corps Research Center (MCRC) at Quantico includes a comprehensive collection of library, research, and archival material with emphasis upon the study of amphibious and expeditionary warfare. It focuses upon linking scholarly research and professional military education with operational lessons learned to stimulate the development of successful concepts, doctrine, tactics, techniques, and procedures. Plans are to place the archive on line.²¹ The Marine Corps Lesson Learned System is available on CD ROM and on line to military users.²² Navy and Coast Guard sites were referenced earlier.

The UN has produced numerous materials for member states and organizations.²³ Examples include *General Guidelines for Peace-keeping Operations (1995)*, *The United Nations Civilian Police Handbook (1996)*, and the *United Nations Military Observers Handbook (1995)*. Since 1989, UN peacekeeping operations have become increasingly complex and multifaceted. Learning from these diverse experiences became one of the main objectives of its Department of Peacekeeping Operations, leading to the creation of a Lessons Learned Unit in 1995. Its products include lessons learned from Somalia, Haiti, and Rwanda, as well as a broader publica-

tion, *Multidisciplinary Peacekeeping: Lessons From Recent Experience*. Topics include: Mandates and Means, Planning, Coordination, Intelligence and Information Analysis, Military, Security, Training of Local Police and Human Rights Monitoring, Logistics, Finance and Budget, Personnel and Training, Medical and Health, Demining, Humanitarian Relief in a Peacekeeping Environment, Public Information, Relations with Local Population, and Demobilization. Other interesting UN documents are *The United Nations Stress Management Booklet (1st Draft, 1995)* and the recent bulletin publication to set out "fundamental principles and rules of international humanitarian law."²⁴

Before leaving this institutional discussion, the US Army Peacekeeping Institute at Carlisle Barracks, Pennsylvania is another excellent resource for information and lessons learned about peace operations. Its website includes numerous and highly relevant links.²⁵ Also, to stay abreast of ongoing developments about peace operations and related missions, the Center for Defense Information maintains a biweekly citation list.²⁶ The Canadian Army Lessons Learned Center, referenced earlier, and The Lester B. Pearson Canadian International Peacekeeping Training Centre offer further information. The Pearson Centre maintains an extensive library database and links to valuable sites, such as International Association of Peacekeeping Training Centers.²⁷ Finally the US Institute for Peace also maintains a website with a wealth of information and links.²⁸

Among the most cogent and useful collection of lessons learned are those of then LtGen. Anthony Zinni, USMC. Despite Gen. Zinni's caveat that each situation is unique (a point of doctrine and other lessons learned further discussed below), these lessons in their original form should be on any list of required reading for peace operations practitioners.²⁹ The following list is in abbreviated form and an interpretation:

- Early involvement, planning, and identification and participation of all of players will contribute to success. If possible make a thorough predeployment assessment. Know the culture and players. Coordinate with everybody and establish mechanisms where various viewpoints may be expressed.

- Planning should include thorough mission analysis, determination of end states, centers of gravity, commander's intent, measures of effectiveness, exit strategy, cost, and time factors. Keep the mission focused, avoiding mission creep, but allowing for mission shift (a conscious evolution that responds to the changing situation). Align military tasks with political objectives.

- Decentralize execution and centralize planning during operations. Start or restart key institutions early, maintain momentum. Don't make enemies, but if you do, don't treat them gently. Avoid mindsets. Encourage innovation and nontraditional approaches. Be aware of personalities—the right people in the right place.

- Be careful whom you empower with resources, positions, and control.

- Seek unity of effort/command and create the fewest possible seams.

- Centralize information management. Decide on your image and stay focused on it. Seek political, cultural, and military compatibility among multinational entities. Assure senior commander and staff education and training for nontraditional roles such as negotiating, interagency operations, etc. Assure troop understanding and awareness of these roles.

Interestingly, one could easily adapt each of the above bullets into the following acronym, recognizable to most military professionals—SMEAC.³⁰ The following discussions of selected perceptions about peace operations uses SMEAC as its structure.

Situation and Mission

Situation and mission are inextricably intertwined, each affecting the other. US doctrine and numerous “lessons learned” discussions clearly recognize the uniqueness of each situation in peace operations and related humanitarian assis-

tance efforts³¹ and stress continuous situational assessment.³² Meanwhile some lessons highlight the “ad-hocery” or “pick-up-games” inherent in many recent operations.³³ Such concern is expected in light of the continuing quest to eliminate as much uncertainty as possible in military operations.³⁴ Similarly there has been some concern about “mission creep,” and other mission changes, especially when they surprise national publics and their legislative representatives. Doctrine in JP 3-07.3 provides guidelines for these circumstances.³⁵

Such conditions, often volatile, not only require continuous assessment of the actual local situation in terms of political, military, social, economic, and informational factors, but also an understanding of the situational context of operations. The situational context is the overarching political-military environment of the operation, akin to a grand strategic view.³⁶ They require translation into specific military constraints and restraints at the operational and tactical level, adequate command and control of military forces involved, and unity of effort in interagency operations. They also require planning for uncertainty and continuous political-military coordination. Spare parts, spare officers, and modular organizations suited to tailored tasks may also be required.³⁷

Planning may be necessary but not sufficient for peace operations. Nimble, agile, flexible, organizations will continually anticipate events, acquire relevant information, analyze it quickly, and adapt to new circumstances. Regardless, planning is essential and new tools are available to assist military planners as they articulate and synchronize military planning with other essential aspects of achieving the ultimate success of peace operations. *The Handbook for Interagency Management of Complex Contingency Operations*, further explains the coordinating mechanisms and planning tools outlined in Presidential Decision Directive-56, *Managing Complex Contingency Operations* and articulates how they should be applied. The Handbook will be essential to staffs at all levels who plan for peace operations. *The Handbook* discusses PDD 56, (to include a copy of the unclassified White Paper, where the term complex contingencies is described) the interagency process, coordinating

mechanisms and planning and assessment tools. It also provides a Generic Political-Military Implementation Plan, an Example Synchronization Matrix, Lessons to be Learned for Interagency Management of Complex Contingency Operations, and An Operators Guide for US Interagency Complex Contingency Operations Planning Decision Support System.

An important aspect of planning is the need for military planners to avoid strict use of warfighting templates in peace operations, but instead to adapt these templates to the peace operations situation.³⁸

Success or Victory

Victory in the military sense usually implies defeat of an enemy. At times during peace operations military force may be used to coerce parties to the conflict or for other legitimate purposes. US doctrine is clear that ultimate success in peace operations is settlement, not military victory. Patience and perseverance, the latter one of the principles of Military Operations Other Than War (MOOTW) will be necessary. US doctrine is also clear that military efforts alone are not the panacea in peace operations. They must be part of a larger and concurrent political, diplomatic, humanitarian, economic, and informational effort involving numerous agencies. The importance of combining these efforts effectively in furthering success of the mission is another one of the major lessons learned of our involvement in peace operations.

Execution

Our experiences in Bosnia, Kosovo, or the Former Yugoslav Republic of Macedonia demonstrate that there is no substitute for "boots on the ground" when it comes to preventing conflict, getting it under control, or ameliorating its effects. The importance of airpower as a means of coercion to achieve specific political goals has been amply demonstrated. It is also addressed in JP 3-07.3 and elsewhere.³⁹ As for influencing the many requirements of a peaceful outcome to any conflict, US capabilities range from civil affairs to psychological operations to engineers and military police. These derive from a variety of Services, but pri-

marily the US Army. In Bosnia, for example, most of the assets for the Implementation Force (IFOR) Civil Military Cooperation program came from US Army civil affairs units. The US Army was also predominant in conducting the IFOR information campaign.

Technology is an adjunct to situational control. It helps to "create time and space and thereby opportunities for alternative courses of action."⁴⁰ A Navy study highlights that "Information operations allow the operational commander to peropponent into accepting the strategic objectives, ideally without the use of force."⁴¹ Unmanned Aerial Vehicles (UAVs) have been used in Bosnia, offering NATO and US forces unprecedented up-to-the-minute intelligence and the capability to take the high ground in information operations. UAVs were used to show the former warring factions that they could not lie about where their forces or equipment were located. The Predator UAV was also used in Bosnia for video support during elections in Mostar. The video allowed surveillance of the city without risking deployment of small patrols that could be harmed. Nonlethal technology is another area of development that has applicability in peace operations as an alternative to deadly force.⁴² This technology will also enhance the ability to apply restraint, a principle of MOOTW. Telemedicine is a technology success story that enhances medical force protection.⁴³

Information Operations foster legitimacy, another principle of MOOTW. Joint doctrine for peace operations addresses such operations, and many recent experiences have been captured in other literature.⁴⁴ Rules of Engagement (ROE) are important. They help to create legitimacy and foster restraint, while assuring the inviolable right of self-defense. In January 1996, an AK 47 was fired at a US unit in Bosnia. The troops took cover behind their Bradley Fighting Vehicles but elected not to follow that part of the ROE allowing return fire against an individual who fires against you. Instead the unit chose to emphasize the other part of the ROE that spoke to minimum force to defend yourself. In this case that meant take cover. The attacker turned out to be an elderly, drunk civilian, whose apologetic neighbors took him

under control. This incident suggests that some flexibility in ROE can contribute to the legitimacy of the operation and restraint without being a drawback to security and force protection.⁴⁵

Force protection is an imperative in all operations, including peace operations, where the risk associated with warfighting may be less acceptable. Impartiality—treating all parties evenhandedly, while adhering to and enforcing mandated aspects of the mission—may serve as a force protection multiplier.

Administration and Logistics

The US military has no peer in its capability to achieve military victory in conventional operations. As a corollary it has the capability to coerce parties to a conflict toward agreements and compliance with various provisions of agreements and settlements. US doctrine is also clear that ultimate settlement is a product of the will of parties involved.⁴⁶ Coercion may be necessary but not sufficient to bring about desired political aims. Military interface and involvement in posthostility activities, conflict termination, and transitions has become a repeated aspect of recent operations in Haiti, Bosnia, and Kosovo. These activities, many of which are called peace building in joint doctrine, have become increasingly important in supporting efforts to achieve ultimate success in a peace operation. Such activities rely more on administrative and logistical professionalism and interagency coordination than they do on classic warfighting skills.

Despite robust doctrine in this arena,⁴⁷ with each operation new lessons, literature, and techniques emerge to enhance the professionalism required to accomplish peace building and related missions.⁴⁸ Moreover, the need for flexibility in applying what was learned in the past to new circumstances is evident in recent operations in Kosovo.⁴⁹ The missions themselves run the full gamut of civil affairs, civil-military operations, logistics, foreign internal defense, and peacetime engagement. Assistance to humanitarian demining, arms control, public security and policing, election assistance, treatment of inhabitants, demobilization, handling claims, funding, contracts, property and personnel issues and

a host of other administrative matters have and will continue to arise in these operations. Military support and participation will continue to require emphasis, professional military education, tailored dissemination of lessons learned, and doctrine and TTP development.

Command and Control

Interagency and multinational operations place a premium on adequate command, control, and communications arrangements important to unity of effort, another principle of MOOTW. Joint doctrine provides guidelines, and other literature and lessons learned will be helpful to commanders and staffs involved.⁵⁰ *The Handbook for Interagency Management of Complex Contingency Operations*, mentioned earlier, should also be helpful, along with joint doctrine.

Education, Training, and Readiness

As a final note here are some personal perceptions about peace operation. An extensive body of anecdotal information and study is available in GAO reports, contracted study, and elsewhere concerning these topics.⁵¹ US professional military education is superlative. At all levels of the system, resident, non-resident and exportable courses exist, bolstered by a robust doctrinal and lessons learned system. Training resources, such as mission training guides, mission training plans, and other materials have been developed and training occurs for servicemembers prior to deployment. At the margin more preparation might be worthwhile, such as education and training for negotiation and mediation and other nontraditional skills. Peace operations tasks should be part of Service unit Mission Essential Task Lists.

Concerning readiness, at least for the Army, one commander sums it up:⁵²

“I was sceptical when I first came over,” said Gen Byrnes. “I was commanding a rapid response heavy combat division. I was reading some of the articles written by those critical of this type of mission so I started formulating the opinion that this would have a serious impact [on combat readiness]. But the more I got into training - platoon and company level training, staff and leader training - I started to see that we were going to take out a lot of benefits in some of

the harder to define elements of readiness like small unit leadership, team building and situational awareness.”

“Our combat service support, our logistics, our administration people are doing the same things here in peace support every day over extended distances that they would do in combat,” points out Gen Byrnes. “Our engineer battalion is building bridges, monitoring de-mining, taking care of unexploded ordnance, doing road assessments and upgrades. They are not clearing obstacles in support of an offensive operation but otherwise close to everything they would expect to do in wartime is being done here. My aviation brigade is flying triple the number of hours that they do in peacetime - they are not doing deep attacks but I do send them out to Glomac range to get that type of training - but they are doing more goggle training, night training, recon’ and surveillance training than they do in garrison.”

Bottom line:

The US military is meeting the challenge of peace operations in nearly every imaginable way, a credit to its dedication to the primacy of our political authority and the furtherance of peace and stability in the world. The experience and expertise of our allies, academia, industry, and other institutions, and the will of the American people to enjoy peaceful existence in the world are also factors of our strength. Lest our enemies get the wrong message, we are also benefiting in preparation for war.

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Endnotes

1 Strictly defined, peace operations encompass peacekeeping and peace enforcement operations. To some degree this article addresses those and other related operations and activities, such as peace building and foreign humanitarian assistance.

2 See www.uscg.mil/hq/commandcenter

3 See www.nwdc.navy.mil

4 Army/Marine Corps and Air Force dictionaries are silent on the topic. FM 101-5-1/MCRP No. 5-24, *Operational Terms and Graphics*, 30 Sep 97, *Air Force Doctrine Document 1-2*, 9 Jul 99.

5 See www.allc.com

6 Defined as: “A shortcoming or deficiency identified during training or operations that precludes training to standard and requires focused problem solving. Defined and analyzed in terms of doctrine, training, education, material, and organizations (force structure) to facilitate correction and validation. “Joint Training Manual,” GL-8.

7 See Robert E. Harkavy, “Lessons Learned, Insights Gained, Issues Raised,” in Steven G Neuman and Robert E. Harkavy, Eds., *The Lessons Learned of Recent Wars in The Third World*, Volume II, (Lexington, MA:Lexington Books, 1987), p. 243 for a worthwhile discussion of conceptual and methodological matters concerning lessons learned.

8 *Handbook for Interagency Management of Complex Contingency Operations*, 13 August 1998, p. 15. Its Table of Contents lists Appendix D as “Lessons to be Learned.”

9 See *Perceptions*, USACOM Joint Warfighting Center Exercise Analysis Branch, Cubic Applications, Inc. Also Briefing, Battle Command Training Program, 23 Mar 99, available at http://www.cascom.army.mil/Combat_Training_Center_Conference/

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- 10 12 Feb 99.
11 16 Jun 97.
12 30 Dec 94.
13 Draft AJP 3-4-1, *Peace Support Operations*, Dec 98.
14 Compare JP 3-07.3 with the British Joint Warfare Publication 3-50, *Peace Support Operations*, NATO's Draft AJP 3-4-1, FM 100-23, and the Swedish Joint Military Doctrine, *Peace Support Operations*.
15 Ibid. See also Pamela L. Reed, J. Matthew Vaccaro, William J. Durch, *Handbook on United Nations Peace Operations*, (Wash., D.C.: The Henry L. Stimson Center, April 1995); Bruce R. Pirnie & William E. Simons, "Soldiers for Peace — An Operational Typology," (Santa Monica, CA: RAND's National Defense Research Institute, 1996); *Summary Report of a Conference on: Operations Other Than War*, (Wash., D.C.: Institute For Foreign Policy Analysis (IFPA), 1995); Antonia Handler Chayes and George T. Raach, Eds., *Peace Operations: Developing an American Strategy*, (Wash., D.C.: National Defense University Press, 1995); John Mackinlay, Ed., *Peace Support Operations: A Manual*, (Prov. R.I.: The Thomas J. Watson, Jr. Institute for International Studies, Brown University, 1995); Donald C. F. Daniel, Ed., *Beyond Traditional Peacekeeping*, (London: Macmillan, 1995).
16 jcll.jwfc.acom.smil.mil.
17 Ibid.
18 www-secure.jwfc.acom.mil/protected/jcll
19 <http://call.army.mil> See also LTG L.D. Holder, USA Ret. And COL Edward J. Fitzgerald, USA, "The Center for Army Lessons Learned: Winning in the Information age," *Military Review*, Jul-Aug 1997.
20 <http://www.hqafdc.maxwell.af.mil/Application/>
21 <http://www.mcu.usmc.mil/MCRCweb/archive.html>
22 <http://www.mcu.usmc.mil/www/library/2mcccls.htm>
23 See <http://www.un.org/Depts/dpko/>
24 See "Annan Sets Rules For U. N. Forces In Combat" *Washington Times*, Aug 11, 99, p. 13.
25 http://carlisle-www.army.mil/usacsl/org/pki/new_pki.htm
26 <http://www.cdi.org/issues/pkcite/>
27 <http://www.cdnpeacekeeping.ns.ca/library.htm>
28 <http://www.usip.org>
29 "Twenty Lessons Learned for Humanitarian Assistance and Peace Operations," Center for Naval Analysis Conference, "Military Support to Complex Humanitarian emergencies From Practice to Policy," Oct. 26, 1995 available at <http://www.cna.org/conference/95past.html> as of 4 Sep 99. See also *Inside the Navy*, "Senior Marine Turns Practice From Past Missions into Policy for Future," Oct. 30, 1995, p. 14 and LtGen Anthony Zinni, "It's Not Nice and Neat," *Proceedings, U.S. Naval Institute*, August 1995, p. 26. Another classic lesson learned reference is Kenneth Allard's, *Somalia Operations: Lessons Learned*, (Wash., D.C.: National Defense University Press, 1995). Mark R. Walsh, "Managing Peace Operations in the Field," *Parameters*, Summer, 1996, p. 32, is another excellent short treatment of peace operations and humanitarian assistance.
30 Situation, Mission, Execution, Administration and Logistics, Command and Signal, an old but useful construct for plans and orders.
31 JP 3-07.3, Chapter 1, for example.
32 Zinni, "Twenty Lessons."
33 See Bosnia-Herzegovina After Action Review Conference Report, 19 May -23 May 1996, US Army Peacekeeping Institute, p. 4. (Views were those of a contracted authors of the report and conference participants, not necessarily PKI or the Army)
34 See "Uncertainty Reduction" in Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the Wars*, (Cornell, N.Y.: Cornell university Press) pp. 47-80.
35 JP 3-07.3, Chapter I.
36 The literature addressing these considerations from varying perspectives is extensive. On the pessimistic side of describing this environment, as a representative sample see, David Hamburg and Cyrus Vance, Co-chairs, *Preventing Deadly Conflict: Final Report*, (Wash., D.C.:

Carnegie Commission on Deadly Conflict, 1997 (Chapter 1); Daniel P. Bolger, *Savage Peace: Americans at War in the 1990s*, (Novato, California, Presidio Press, 1995); James Burk, ed., *The Military in New Times: Adapting Armed Forces to a Turbulent World*, (Boulder, Colorado: Westview Press, 1995); Michael Howard, "Cold War, Chill Peace," *World Policy Journal*, Winter 1993-94, p. 27; Ted Robert Gurr, "Communal Conflict and Global Security," *Current History*, May 1995, p. 212; Lee W. Huebner, "Revolution in Global Communication," *Brown Journal of Foreign Affairs*, Winter 1993/1994, p. 27; Vaclav Havel, "The End of the Modern Era," *The New York Times*, March 1, 1992, p. 15; Samuel P. Huntington, "The Clash of Civilizations," *Foreign Affairs*, Summer 1993, p. 22; Robert D. Kaplan, "The Coming Anarchy," *Esquire*, February 1994, p. 44; Edward N. Luttwak, "Toward Post-Heroic Warfare," *Foreign Affairs*, May/June 1995, p. 115; Charles William Maynes, "The New Pessimism," *Foreign Policy*, Fall 1995, p. 32.; William H. McNeill, "Winds of Change," in *Sea-Changes: American Foreign Policy in a World Transformed*, Ed., Nicholas X. Rizopoulos, (New York: Council of Foreign Relations Press, 1989), p. 163; Joseph S. Nye, Jr., "Conflicts after the Cold War," *The Washington Quarterly*, Winter 1995, p. 5; James N. Rosenau, "Security in a Turbulent World," *Current History*, May 1995, p. 193; Jennifer Taw and John E. Peters, *Operations Other Than War: Implications for the Army*, (Santa Monica, Ca.: RAND Arroyo Center, 1995); Manfred Woehicke, "Global Risks in Developing Countries," *Aussen Politik*, Number 3, 1991, p. 251. A more upbeat, though less-detailed review is provided by Ernest J. Wilson III and Ted Robert Gurr, "Fewer Nations Are Making War," *Los Angeles Times*, August 22, 1999.

37 LTG Daniel Schroeder, USA, in "Lessons of Rwanda," *Armed Forces Journal International*, Dec 94, p. 33 stressed the need for "discrete capabilities" as opposed to "large organizations," albeit with the appropriate level of leadership.

38 *Perceptions, 1998*, USACOM Joint Warfighting Center Exercise Analysis Branch, p. 7, raises some of these issues. Examples of adaptability may be found in John W. Jandrow, "Threat Parameters for Operations Other Than War," *Parameters*, Spring 1995, p. 55 and Captain Thomas L. Morris, "The IPB Process for Operations Other Than War," *Field Artillery*, September-October 1995, p. 28.

39 JP 3-07.3, p. III-4. See also John A. Tirpak, "Lessons Learned And Re-Learned," *Air Force Magazine*, Aug 99, p. 23.

40 See for example, *Operations Other Than War: The Technological Dimension*, (Wash., D.C.: National Defense University, 1997)

41 E.D. McGrady and Karen Smith, *Haiti and the future of Warfare*, Alexandria, VA.: Center for Naval Analysis, 1997), p. 3.

42 John M. Collins, *Nonlethal Weapons and Operations: Potential Applications and Practical Limitations*, (Wash., D.C.: Congressional Research Service, The Library of Congress, September 14, 1995).

43 Clifton Berry Jr., "Military Telemedecine Extends Its Reach," *Army*, Mar 97, p. 18.

44 JP 3-07.3, p. I-16. See also LtGen Anthony C. Zinni, USMC and Col Frederick M. Lorenz, USMC, "Media Relations: A Commander's Perspective," *Marine Corps Gazette*, December 1995, p. 67; Warren P. Stroebel, *Push Me, Pull Me: The News Media, Peace Operations, and US Foreign Policy*, (Wash., D.C.: United States Institute for Peace, 1998); LTGEN H. Hugh Shelton, USA and LTC Timothy D. Vane, USA, "Winning the Information War in Haiti," *Military Review*, November-December 1995); and Larry Minnear, Colin Scott, Thomas G. Weiss, *The News Media, Civil War and Humanitarian Action*, (Boulder CO.: Lynne, Rienner Publishers, 1996); Charles de Caro, "Software," *Cyberwar: Security, Strategy and Conflict in the Information Age*, Allen D. Campfen, Douglas H. Dearth, R. Thomas Gooden, Contributing Editors, (Fairfax, VA.: AFCEA International Press (AIP), May 1996) p. 203.

45 See David Fastabend, "The Categorization of Conflict," *Parameters*, Summer 1997. p. 75.

46 JP 3-07.3, p. I-1.

47 JP 3-07.1, "JTTP for Foreign Internal Defense," Draft JP 3-07.6, "JTTP for Foreign Humanitarian Assistance," Draft JP 3-57, "Doctrine for Joint Civil Affairs," and the JP 4-0 series of JPs. Also JP 3-08, "Interagency Coordination During Joint Operations,"

48 COL Alexander W. Waiczak, USA, "Conflict Termination—Transitioning from Warrior to Constable: A Primer," US Army War College Study Project, 15 April 1992 addresses many of the topics of concern mentioned in endnote 34. See also, for example, "Civil Affairs and MOOTW:

Four Balkan Sketches," *Joint Force Quarterly*, Summer 97, pp. 45-54, In the same issue, F.M. Lorenz; discusses "War Criminals—Testing the Limits of Military Force, p. 59. See also *After The War is Over: What Comes Next?* (Wash., D.C.: US Agency for International Development, 1997); R.B. Oakley, M.J. Dziedic, and E.M. Goldberg, Eds., *Policing the New World Disorder: Peace Operations and Public Security*, (Wash. D.C.: National Defense University Press, 1998), especially the concluding chapter, which includes lessons learned. See also J. Chopra, Ed., *The Politics of Peace-Maintenance*, (Boulder, CO.: Lynne Rienner Publishers, Inc. 1998); The Disarmament and Conflict Resolution Project: United Nations Institute for Disarmament Research (UNIDIR) 1995-1996 series on *Managing Arms in Peace Processes*. Also useful may be Charles R. Schrader, "Review Essay: Logistics in Peace Operations and Humanitarian Assistance," *Parameters*, Summer 1996, p. 151; L. M. Davis et. al., *Army Medical Support for Peace Operations and Humanitarian Assistance*, (Santa Monica, CA.: Rand, 1996); *Compendium of Lessons Learned During Logistics Support of Peacekeeping Operations*, (Brussels, Belgium, Logistics Directorate, NATO HQ, 1996); Bruce B. G. Clarke, *Conflict Termination: A Rational Model*, (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, May 1992); James W. Reed, "Should Deterrence Fail: War Termination in Campaign Planning," *Parameters*, Summer 1993, p. 41; Major Kenneth O. McCreedy, USA, "Winning the Peace: Postconflict Operations," and "Planning the Peace: Operation Eclipse and the Occupation of Germany," (Fort Leavenworth, KS.: School of Advance Military Studies (SAMS), Monographs, 17 December 1994 and 19 May 1995); Kevin C. M. Benson, Christopher B. Thrash, "Declaring Victory: Planning Exit Strategies for Peace Operations," *Parameters*, Autumn 1996, p. 69 and James J. Carafano, "Swords Into Plowshares: Postconflict Arms Management," *Military Review*, Nov-Dec 97. More on legal aspects in all phases and types of peace operations may be found; Michael H. Hoffmann, "War, Peace and International Armed Conflict: Solving the Peace Enforcer's Paradox," *Parameters*, Winter 1995-96, p. 41; F. M. Lorenz, "Law and Anarchy in Somalia," *Parameters*, Winter 1993-94, p. 27; Maurice Marnika, "The Rules of the Game: The Three Guiding Legal Principles of Peacekeeping," *Peacekeeping and International Relations*, January/February 1996, p. 3; William V. O'Brien, "The Rule of Law in Small Wars," *American Academy of Political and Social Science Annals*, September, 1995, p. 36. "Application of Law of War Rules and Principles in Armed Conflict: A Conference Report," (Garmisch, Ptk., GE.: George C. Marshall Center for Security Studies, 1994); and "Training the Law of War: A Mission Essential Task for Infantrymen," *Infantry*, Mar-Apr 96.

49. See "Kosovo—The Task Force Commander's Viewpoint," *Army*, Sep 99, p. 35

50 Dr. Davis S. Alberts and Dr. Richard Hayes, *Command Arrangements for Peace Operations*, (Wash., D.C.: Institute for National Strategic Studies, National Defense University, May 1995). Dr. Margaret Daly Hayes, Radm Gary F. Wheatley, *Interagency and Political-Military Dimensions of Peace Operations: Haiti-A Case Study*, (Wash., D.C.: National Defense University Press, 1996); Captain (N) Leif Ahlquist, *Co-Operation, Command and Control in UN Peace-keeping Operations*, (Stockholm, Sweden: Swedish War College, 1996).

51 *Peace Operations: Effects of Training, Equipment, and Other Factors on Unit Capability*, (Wash., D.C.: United States Government Accounting Office, October 1995) is just one example.

52 Ian Kemp, "Maj Gen Kevin Byrnes, Commander of the Multi-National Division-North, describes to the impact of peace support operations on the 1st Cavalry Division," *Jane's Defence Weekly*, July 28, 1999.

“Combat Identification to the Shooter”
Finding Solutions to Combat ID Deficiencies
by LTC Michael Klingele, ASCIET 99 Program Manager
and Mr. William Rierson, Senior Systems Analyst

“The underlying principle of fratricide prevention is simple: Leaders who know where their soldiers are, and where they want them to fire, can keep those soldiers alive to kill the enemy. At the same time, leaders must avoid at all costs any reluctance to employ, integrate, and synchronize all required operating systems at the critical time and place.”

FM 71-1, Tank and Mechanized Infantry Company Team¹

Introduction

The principle of fratricide prevention may be “simple,” but history shows us that execution is anything but that. Go to the Joint Readiness Training Center (JRTC) and ask any leader or Tactical Operations Center (TOC) battle captain about “knowing where his soldiers are” and he will tell you just how hard it is to maintain accurate and timely “situational awareness.” Ask any gunner at the National Training Center (NTC) about “where to fire” and he will show you just how hard it is to identify targets under combat conditions. Field Manual (FM) 71-1 tells us that tough and realistic combined arms training conducted to standard helps eliminate fratricide risks. Additional help with the fratricide challenge may be found in the utilization of improved Tactics, Techniques, and Procedures (TTP) and emerging technologies.

To help the Services identify solutions to combat ID deficiencies, develop better TTP, and evaluate emerging technologies with the potential for reducing fratricide, the All Service Combat Identification Evaluation Team (ASCIET) conducts a fully instrumented field annual evaluation. Combat ready units from all four Services, active and reserve components, provide ground, air and naval forces. By utilizing Former Soviet Union (FSU) surface combat vehicles and helicopters as the Opposing Force (OPFOR), an ASCIET evaluation duplicates realistic combat ID challenges for participants. To garner additional insights, ASCIET encourages the participant Blue Force (BLUFOR) to experiment with TTP excursions and integration of new technologies. An ASCIET evaluation is neither a test of the individual soldier nor an evaluation of unit readiness, but an unparalleled opportunity to discover potential solutions to combat ID challenges.

“Operation Desert Storm—with its record of 23 percent of American casualties being self-inflicted and with 77 percent of U.S. combat vehicles losses resulting from friendly fire—was a high-exposure news item throughout the world for weeks in February 1991.”

Blue-on-Blue: A History of Friendly Fire²

Background

The General Officer Steering Committee for Combat Identification (GOSC-CI) chartered ASCIET in September 1994. Effective 1 October 1999, ASCIET was assigned to the United States Joint Forces Command. Chartered to employ the equipment and personnel of all Services, ASCIET evaluates, investigates, and assesses various concepts of combat ID on the battlefield. ASCIET strives to improve U.S. warfighting capability by fostering improved combat ID across all Joint mission areas (surface-to-surface, air-to-surface, surface-to-air, and air-to-air).

ASCIET focuses on “ID to the shooter.” ASCIET defines combat ID as “a process that results in a shooter determining a target’s ID in support of an engagement decision under specified Rules of Engagement (ROE).” The field evaluation generates a realistic Joint tactical environment and is

robust enough to produce the “fog of war.” The instrumentation allows ASCIET to monitor operations in real time, provide timely feedback to participants through truth-based debriefs, and conduct postevaluation analysis. The field evaluation provides a unique Joint training and learning opportunity for all participants.

For ASCIET 99, each Service developed evaluation objectives. Because of the natural crossover/redundancy across Service objectives, ASCIET developed a single set of combat ID objectives (which addressed Service objectives) and divided them into two areas: ground target combat and air defense. These objectives served as the foundation for scenario development and the analytical effort. Analysis began during mission execution and culminated with the final report. Analysis was designed to answer three fundamental questions:

- How effective is current combat ID?
- What are the current combat ID deficiencies?
- What are the promising solutions to combat ID deficiencies?

This article is an extract from the Executive Summary of the *ASCIET 99 Evaluation Report*. The complete Evaluation Report (including the Executive Summary) is available on the ASCIET SIPRNET classified web site (<http://157.224.120.250/ASCIET>). (www-knowledgetoday.jfcom.smil.mil/asciet.nsf)

ASCIET 99 Scenario and Scope

ASCIET 99 was held from 1 through 12 March 1999 at Fort Stewart, Georgia, and adjacent military land, air, and Atlantic water ranges. The evaluation environment provided a Joint littoral battle space. The land ranges included forested and swampy terrain. ASCIET staff provided higher-echelon Command and Control (C²) using Operations Orders (OPORDs) and Air Tasking Orders (ATOs). Personnel and equipment from Active, Reserve, and National Guard units of the four Services and the United Kingdom conducted ten 5-hour missions, including both day and night operations. Non-participants, both civilian and military, operated in portions of the battle space during missions, stressing the ID process. Missions were not scripted, allowing participant-controlled tactical execution. Figure 1 depicts the size, locations and complexity of the ASCIET evaluation.

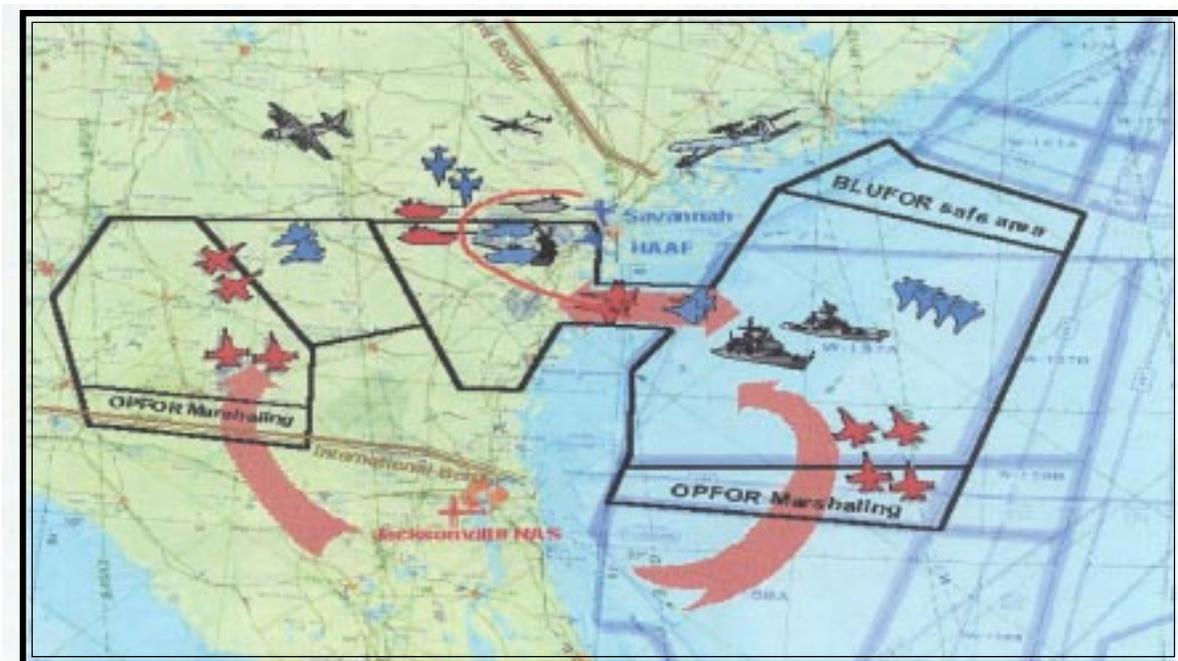


Figure 1. ASCIET 99 Scenario and Scope

Operations A Joint Task Force (TF) headquarters (response cell) provided overall direction to the Army Force (ARFOR) and Marine Force (MARFOR) ground forces. An ARFOR Brigade (Bde) TOC controlled a Battalion (Bn) TF with two tank-heavy company teams. A Marine Corps Light-Armored Reconnaissance (LAR) Bn controlled a LAR company and a reinforcing tank platoon. AH-64A and OH-58D helicopters supported the ARFOR while other OH-58D helicopters supported the MARFOR. Artil-

lery and mortars, with fire support C², supported ARFOR and MARFOR. Air Force F-16Cs and O/A-10As conducted air-to-surface attacks over the maneuvering battlefield. The Air Force and Marine Corps ground Forward Air Controllers (FACs) integrated with maneuver C² according to doctrine. Ground forces received intelligence support from E-8C Joint Surveillance Target Attack Radar System (JSTARS), EC-130E Senior Scout, EP-3E Aries, National Technical Means (NTM), and Hunter Unmanned Aerial Vehicle (UAV) in addition to organic assets. A Deployable Intelligence Support Element (DISE) provided a division-level Joint Command, Control, Communications, and Intelligence (C³I) interface, but the Bde TOC and MARFOR Combat Operations Center (COC) also received intelligence directly, using dedicated JSTARS Common Ground Stations (CGS) and UAV Remote Video Terminals (RVTs). The OPFOR operated 15 T-72 tanks and 15 BMPs, providing a “tailored” enemy force for each mission. During most missions, one platoon of FSU vehicles acted as a friendly coalition force attached to BLUFOR.

Figure 2 diagrams a typical ground force tactical scenario.

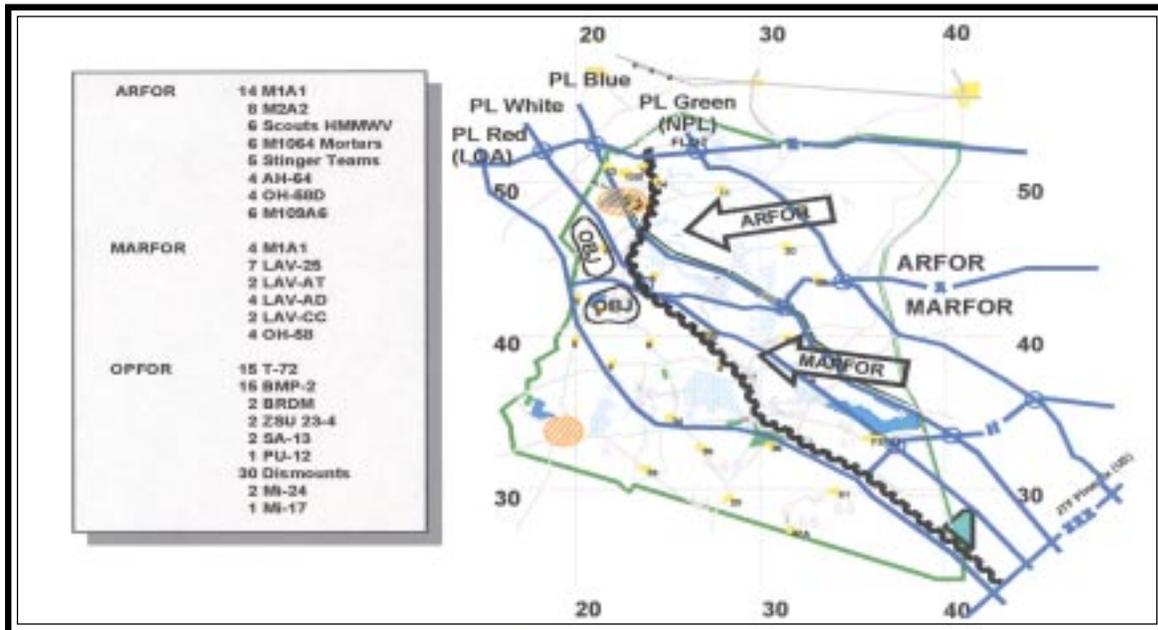


Figure 2. Ground Maneuver Forces General Scenario
Combat Results

Visual Identification and Situational Awareness

Despite a median ground detection range of only 357 meters, ground forces did not declare an ID on 51 percent of the detected targets. Of targets they identified, 10 percent were incorrect. Ground combat vehicle crews did not declare an ID on 47 percent of targets they engaged. Helicopters could not visually identify (VID) and did not engage 25 percent of the Hostile targets they detected. At night, Apache crews could not VID 59 percent of targets detected beyond 1,500 meters, and 32 percent of the targets they did VID were incorrect. Inside 1,500 meters (within OPFOR tank main gun range), Apache crews identified only 63 percent of the targets at night, and 16 percent of those were wrong. Apaches depended on the ground commander’s Situational Awareness (SA) to clear their fires at night. **Conclusion: Ground maneuver shooters need improved target ID methods or equipment. Repeat finding from ASCIET 96.**

Maneuver forces identified ground targets by VID and SA. VID (including optics, night-vision goggles, and thermal imaging) was their only available means of positive target ID. SA was based on Intelligence Preparation of the Battlefield (IPB), operations plans—for example, OPORDS, Fragmentary Orders (FRAGOs), graphics, and control measures—real-time Intelligence, Surveillance, Reconnaissance (ISR), reports from field forces (e.g., scouts, aircraft, and maneuver elements), and Enhanced Position Location Reporting System (EPLRS). **Conclusion: ISR resources (to include JSTARS) need to be fully integrated in the ground commander’s intelligence collection plan, particularly in cluttered environments (foliage, mountain, urban).**

TOCs performed manual battle tracking to maintain an SA picture, which was used to maneuver forces and clear indirect fires, night helicopter fires, and Close Air Support (CAS) missions. TOCs also radioed SA information to lower echelons, providing SA for combat ID. The TOCs' SA pictures lacked the accuracy needed to support combat ID. The TOCs' Friend SA picture was based on voice report data from lower echelons. Snapshots of TOC battle boards showed 60 percent of the posted threat (OPFOR) information was inaccurate. This lack of SA directly limited the staff and commander's ability to accurately visualize the battlefield and may have been a potential fratricide contributor. From 8 to 59 percent (25 percent average) of the voice message traffic received at the Army Bde TOC was unintelligible. At the Marine COC, 31 percent of the calls were not acknowledged, indicating they may not have been received, understood, or used. Of reports generated by the four main C² nodes, 22-27 percent contained inaccurate vehicle location, type, or number. **Conclusion: The TOCs' SA pictures did not support combat ID.**

Army maneuver forces had EPLRS for automated, digital Friend tracking and communications. Initial Fire Support Automation System (IFSAS) was used for automated digital fire support. Army maneuver vehicles had EPLRS in accordance with current fielding plans. However, maneuver forces were unable or unwilling to employ these currently fielded digital systems. Even though the EPLRS network was operational, only one of the 23 EPLRS-equipped Army maneuver vehicles reported on the EPLRS network. The Army Bde and TF TOCs never used their EPLRS SA display. Army fire support personnel conducted nearly all fire missions by voice, partly because voice provided better interoperability. As a result, participants did not realize the potential benefits of automated Friend protection built into these systems. During the second week, the Marine COC demonstrated the value of EPLRS/Situation Awareness Data Link (SADL)-FAC for accurate Friend tracking, digital CAS, and fratricide prevention. **Conclusion: Fielded digital C² systems—EPLRS, IFSAS, SADL—are promising, but participants did not realize potential benefits.**

BLUFOR engaged some or all of the coalition vehicles every time they attempted a passage of lines. Participants used Battlefield Reference Marking System (BRMS) and VS-17 panels to mark the coalition vehicles, but these were ineffective. At times, SA on the coalition force broke down completely and they were "lost." Accurate SA (when available) and BLUFOR escort vehicles were the most effective coalition ID aids. **Conclusion: Combat ID for coalition forces is problematic.**

Direct Fire

Army ground combat vehicle crews employed fire commands in 7 of 133 assessed engagements and Marine crews in 8 of 33 assessed engagements. Proper use of fire commands is the standard during live fire gunnery qualifications. Fire commands allow the tank commander to maintain order and control of the crew during an engagement, potentially mitigating the opportunity for fratricide by reducing confusion in the turret and ensuring the crew is working as a team. Additionally, the current structure of the fire command does not require the gunner to announce the ID of the potential target by force or type (e.g., Friend, Enemy, Unknown, T-72, or BMP). **Conclusion: Army and Marine M1A1 crews rarely used proper fire commands.**

In 73 assessed helicopter engagements, 5 resulted in fratricides. Helicopters missed 39 opportunities to engage threat vehicles (out of 157 target detections) due to the inability to VID the target. Overall, Apache crews could not VID 50 percent of the detected night targets, and 24 percent of the night VIDs were wrong. At ranges beyond 1,500 meters, crews could not VID 59 percent of the night targets, and 32 percent of the VIDs were wrong. Even at ranges less than 1,500 meters (well within enemy weapon range), crews could only identify 63 percent of the targets, and 16 percent of these were wrong. At night, Apache crews depended on the maneuver TOCs' SA to clear their engagements. **Conclusion: The Apache Forward-Looking Infrared (FLIR) does not adequately support VID at night.**

Indirect Fire

There were 236 calls for fire resulting in 197 indirect fire missions of which 6 were assessed as fratricides, and another 13 were assessed as undeclared danger close. The ARFOR's 173 calls for fire also included 17 missed opportunities against correctly located and identified targets that were clear of Friends.

The primary job of Forward Observers (FOs), Combat Observation Lasing Teams (COLTs), and ground scouts is to detect, ID, and locate targets. Ground-based FOs were equipped with standard binoculars, AN/PVS-6 Laser Rangefinders, and Ground/Vehicular Laser Locator Designators (G/VLLDs)—

all of which are the least capable night vision equipment available to maneuver warfighters. **Conclusion: FOs continue to rely on VID and voice SA to identify (Friend or Foe) potential targets.**

Fire Support Elements (FSEs) use the SA information available at the TOC. In a dynamic battlefield environment, this information is currently inadequate for these authorities to perform critical clearance of fires duties and protect friendly forces from indirect and other supporting fires. Of the 6 indirect fire fratricides, 5 were due to incomplete or inaccurate SA. **Conclusion: Bn and Bde FSEs clear fires based on SA, but they currently lack technology or TTP to maintain a consistent, accurate SA picture.** (See *Visual Identification and Situational Awareness* paragraph.)

Unmanned Aerial Vehicle

Army and Marine TOCs used ISR to detect, locate, and identify targets for 52 percent of the indirect fire missions. ISR detection allowed engagements beyond the visual range of friendly maneuver forces. Other ISR assets cued the UAV, which provided timely and accurate target location and ID for the close fight. The UAV was the leading ID source; FSOs identified 37 percent of their targets using UAV data.

TTP for UAV operations were immature. The OPFOR routinely shot down the UAV when it overflowed their air defenses. Participants lacked TTP for deconflicting UAVs with CAS and helicopter airspace. **Conclusion: Bde and Bn TOCs used UAV (cross-cued by other ISR) as the primary tool to detect, locate, identify, and engage indirect fire targets in support of the Bde and Bn close fight.**

Combat Identification Panels

Combat Identification Panels (CIPs) are a fielded Quick Fix ID solution for ground vehicles. CIPs are an aid to thermal VID, but they did not provide a reliable, distinctive "Friend ID" signature. When correctly installed, CIPs can produce high-contrast "cold" spots in the vehicle's thermal signature, which are highly visible under some conditions. The CIP size, shape, and location vary by vehicle type. The CIPs were visible in only 52 of 96 examined cases (54 percent). In some cases, crews did not correctly install CIPs. In some cases, foliage, camouflage, or personal gear obscured the CIPs signature or other objects mimicked the CIPs signature. Participating crews indicated they seldom used CIPs to aid their VID. Overall, CIPs contribution to combat ID was negligible. FM 23-1³ discusses CIPs, but FM 71-1⁴ and FM 17-12-1-1⁵ do not. NTC "draw" vehicles do not have CIPs. Recognition of Combat Vehicles (ROC-V) and other training simulators—for example, Close Combat Tactical Trainer (CCTT) and Unit Conduct of Fires Trainer (UCOFT), do not include CIPs. Some information in the Center for Army Lessons Learned (CALL) Handbook 95-3, *Users' Guide: Combat ID Quick Fix Devices* is obsolete. Crews need specific training to correctly install CIPs and to effectively integrate CIPs into their gunnery and maneuver training. **Conclusion: CIPs are an aid to thermal VID, but they did not provide a reliable, distinctive Friend ID signature. Repeat finding from ASCIET 96.**

Recognition of Combat Vehicles

ROC-V is a computer program (PC-based) for thermal and VID training. Half of the maneuver crews trained with ROC-V for 4-6 hours, resulting in classroom test score improvements from 45 percent successful IDs before the training to 95 percent after the training. However, ASCIET found no evidence that ROC-V trained crews performed better than the control group during the field evaluation. The ROC-V image set needs to be updated to include CIPs images, down-looking images (UAV or helicopter view), and images of support vehicles. **Conclusion: ROC-V is an impressive VID training tool, but additional work is needed to ensure ROC-V skills transfer to the battlefield.**

Recommendations

Primary surface-to-surface combat ID nonmaterial and material recommendations are listed in detail on the JCLL web site: <http://www.jwfc.jfcom.mil/jw4000>. To access you will need to be a registered user or follow the instructions for registration. A bulletized summary of those recommendations above is provided on the site.

Intelligence. Educate commanders and intelligence officers on the capabilities of JSTARS. Use complementary systems where JSTARS has limitations. Exploit UAVs at all appropriate command levels. Include JSTARS operators in mission planning and rehearsals. Disseminate guidance on UAV employment and airspace management. Train field artillery officers on VID using UAV imagery.

Ground maneuver. Revise CALL handbook on quick fix devices. Use CIPs during at home-station training. Integrate CIPs imagery into training programs. Increase training and improve methods for identifying coalition forces into BLUFOR organizations. Emphasize in training the use of current digital C² systems.

Possible material solutions include improving target ID capability through improved ID training, improved thermal imaging systems, reliable friend-signature enhancing devices, and real-time situational awareness displays in the turret. Distribute an updated ROC-V image set to Army and Marine Corps units to improve VID skills on the battlefield and incorporate ROC-V into gunnery skills tests.

Acknowledgement: The authors thank the ASCIET Surface-to-Surface Analyst Team, directed by Dr. Scott Ritchey, for providing their insights for the development of this summary.

Endnotes:

1. U.S. Department of the Army, FM 71-1, *Tank and Mechanized Infantry Company Team* (Washington, D.C.: Department of the Army, 1998), pg D-1.
2. Regan, Geoffrey, *Blue-on-Blue: A History of Friendly Fire* (New York, Avon Books, 1995), pg 4.
3. U.S. Department of the Army, FM 32-1, *Bradley Fighting Vehicle Gunnery* (Washington, D.C.: Department of the Army, 1996). Para 2-3c(1).
4. U.S. Department of the Army, FM 71-1, *Tank and Mechanized Infantry Company Team* (Washington, D.C.: Department of the Army, 1998).
5. U.S. Department of the Army, FM 17-12, *Tank Gunnery (Abrams)* (Washington, D.C.: Department of the Army, 1998).

Lieutenant Colonel Michael J. Klingele served as the 1999 Project Manager for the All Service Combat Identification Evaluation Team's (ASCIET's) annual evaluation. He was responsible for all aspects of the evaluation, to include planning, resource allocation, service coordination, execution and after action reports. Colonel Klingele's commanded an attack helicopter company during Operations Desert Shield/Storm and served as Executive Officer and Operations Officer of the 3rd Battalion, 229th Aviation Regiment (Attack) at Fort Bragg, North Carolina. He is a graduate of the Command and General Staff College, Fort Leavenworth, Kansas. He holds a Bachelors of Science degree from the United States Military Academy and Master of Public Affairs from Central Texas College, Killeen. Lieutenant Colonel Klingele is currently Commander of 164th Air Traffic Services Group in Korea.

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Challenges Facing Intelligence Support to The JTF

By Mr. Dave Collins

In the first article (Volume II Issue 1) Mr. Collins makes the case that the nature of intelligence support has changed from the NATO centric, Soviet Union based, thinking of the past 50 years to the more diverse and challenging range of operations facing the JTF commander today. This spectrum can run from support of Humanitarian Assistance to Peacekeeping/Peace Enforcement to Limited or full scale warfare.

As an introductory article, he gave a broad-brush overview of the difficulties in providing intelligence support to meet the demands on the JTF. For example, even in a Peacekeeping operation the intelligence staff must provide data on any potential transition to Peace Enforcement operations. Further, Force Protection plays a major role throughout the spectrum of operations we are likely to be involved in. He states, "...the intelligence staff has the responsibility to provide a thorough intelligence preparation of the operation area...the intelligence staff owes the commander an ongoing assessment of significant operations area features and events...and an operational vigilance regarding potential emerging threats."

Finally, Mr. Collins addresses the need for critical thinkers as intelligence analysts who can "think outside the box" and interpret the principles of intelligence support to the warfighter and apply them to other mission types. This next article continues to define this process.

This article is the second in a series designed to explore the emerging challenges facing US military intelligence analysts providing intelligence support to joint operations. While the focus of these articles is on joint task force operations many of the lessons/observations contained herein are applicable at other levels as well. The initial article (JCLL Bulletin Vol II Iss 1) served as an overview for the series. Future articles will explore such topics as the often nontraditional nature of the "threat" in JTF operations; the role of intelligence support to meet overall protection vice classic force protection needs in a HA/DR or NEO setting; and how intelligence training conducted within the JCS exercise program may be enhanced.

One of the more fascinating aspects of working with such a wide range of intelligence organizations on a recurring basis is hearing first-hand the concerns and questions of US intelligence analysts around the globe. In listening to these perspectives over time, a number of points have become clear. Central among these is the fact the world within which intelligence operations occurs has changed. What this means to intelligence analysts operating in a joint environment has resulted in a significant degree of confusion or lack of understanding. With this in mind, it is important to establish a couple of key points to help frame the following comments.

Exactly the same...only different!

First, the basic attributes of intelligence operations (fig. 1) remain constant despite the emergence of our "new world order" and its attendant impacts on mission area foci (i.e. warfighter, or

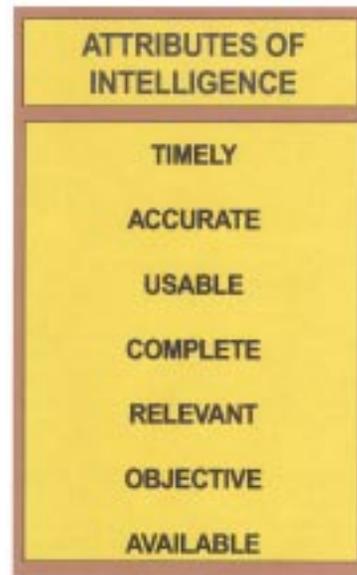


Figure 1-Attributes of Intelligence

military operations other than war). Second, while the basic attributes remain constant, what has changed significantly are many of the underlying processes and procedures required to provide intelligence support to US joint military operations. In fact, while US joint military doctrine clearly defines the chief responsibility of military intelligence operations as being preparedness to support warfighting operations, many of the roles and responsibilities of these intelligence organizations have changed dramatically. Involvement in such operations as PROVIDE COMFORT, SUSTAIN HOPE, SEA AN-

GEL, ALLIED FORCE, and others over the past several years has repeatedly demonstrated the criticality of developing intelligence support capabilities and resources that transcend those to support classic warfighting operations.

This fact is clearly evident in the continuing expansion of US joint military doctrine to support military operations other than war (MOOTW). The need for an accompanying enhancement of US military intelligence expertise and capabilities was singled out by General Zinni in his comments regarding lessons learned from his experiences as Director of Operations for Unified Task Force (UNITAF) Somalia. "I think first of all the business about the chain of control and command is a key lesson from Somalia. Another is the importance of understanding the culture that you are involved in and the environment that you are involved in. I don't think we understood the clan infrastructure and how that worked. I don't think we understood the faction leaders. I think what we lacked was probably the ability to penetrate the faction leaders, and truly understand what they were up to, or maybe the ability to understand the culture, the clan association affiliation, the power of the faction leaders, and maybe understanding some of the infrastructure too." The types of shortfalls described by General Zinni are, in very large part, the responsibility of intelligence staffs to resolve and clarify. Many traditional intelligence processes and procedures developed for warfighting operations have applicability across a broader spectrum of military operations. Often however, their application must be tailored or refined in order to be effective in a MOOTW environment. Using General Zinni's example regarding the significance of understanding the culture and leadership involved, it is clear that the command and control dynamics among the Somali forces were far more complex than intelligence analysts were resourced or otherwise prepared to substantively analyze. Unlike a "traditional" conflict situation generally involving two primary sides, the organizational structure among the Somalis included 15 recognized factions. Such a situation significantly complicates the effort of intelligence analysts to conduct an intelligence preparation of the battlespace (fig 2).

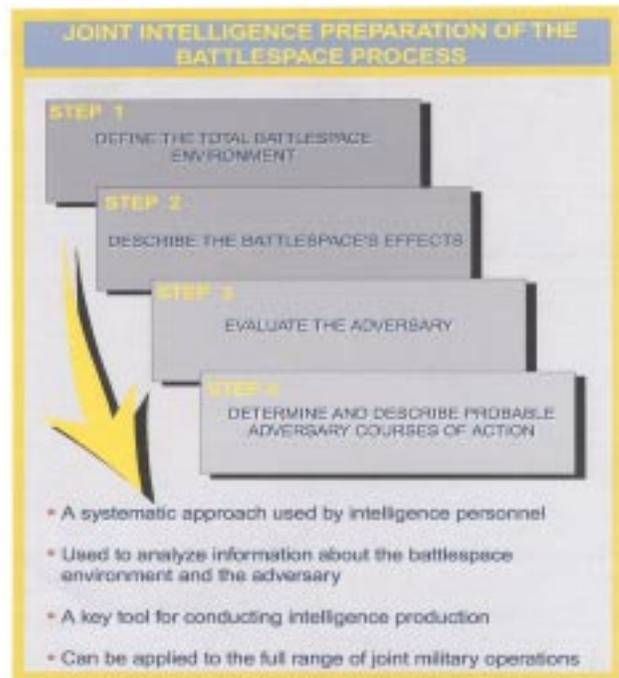


Figure 2: Preparation of the Battlespace

The extreme complexity of operational dynamics in such a situation (e.g. complimentary/conflicting agendas, diverse ROE, and varied centers of gravity) greatly impact the ability of a JTF intelligence staff to provide accurate and relevant intelligence products to the commander in a timely manner. Based upon General Zinni's comments, it is clear the intelligence preparation of the battlespace conducted by his intelligence staff and other supporting organizations did not provide a sufficient level of situational awareness to meet his needs.

US military involvement in mission areas such as humanitarian assistance/disaster relief, peace enforcement operations, and counter drug operations over the past several years, have demonstrated frequently that operational dynamics such as those encountered by General Zinni result in a wide range of intelligence gaps and an inability to meet the needs of operational commanders. In an effort to understand the reasons for such developments there has been an effort to develop conceptual tools to assist in improving both the framework and the methodologies associated with providing intelligence support to such operations. Joint doctrinal publications such as the new JP 2-0, *Joint Doctrine for Intelligence Support to Operations* have begun to incorporate an improved level of guidance for intelligence personnel providing support to a MOOTW. Such guidance may be useful when applied against the basic doctrinal J-2 responsibilities (fig. 3).

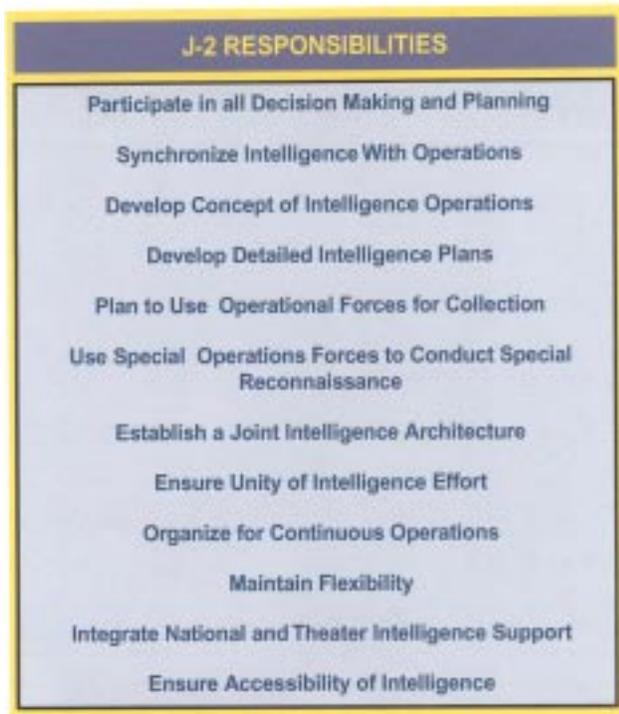


Figure 3: J-2 Responsibilities

While it is sometimes sufficient to understand mission concepts only at the macro level, in order to operationalize these concepts and successfully execute them requires a detailed, tactically oriented understanding of how these concepts are actually employed. In many instances the dynamics of a given concept of an intelligence task executed by a JTF intelligence staff member changes dramatically based upon a number of variables. For example, JP 2-01, *Joint Intelligence Support to Military Operations*, states “The J-2 must modify and tailor the intelligence response to meet the unique challenges presented in each operation...the nature and intensity of a potential threat in MOOTW can change suddenly and dramatically...a peacekeeping operation may abruptly transition to a combat peace enforcement operation.” While this overall concept is understood easily enough, what does it really mean in terms of actual execution? The initial resourcing and organization of an intelligence staff is based upon its actual or anticipated mission. In the effort to understand the nuances and challenges associated with providing intelligence support to a diverse range of operational mission sets, a number of conceptual tools have been developed. An example of just how divergent these dynamics may be is seen in the intelligence organization structures for UN operations in Somalia and US intelligence support to stabilization forces (SFOR) (fig. 4).

A number of publications have been developed to better understand the dynamics that drive such organizational diversity, and by extension the diversity of staff dynamics within these organizations. Key among these are the JTF Mission Training Guide and the Universal Joint Task List version 4.0 (CJCSM 3500.4B). Each of these publications is designed to provide insight to the actual tasks or capabilities requirements necessary to accomplish intelligence operations. In looking at the contents of these documents relative to intelligence staff operations, cross-walking their contents against each other, and applying that result against varying JTF mission types (e.g. warfighting, NEO, PEO, etc.) it quickly becomes evident that many of the participants with whom these staff actions would occur would change significantly depending upon the mission involved. For example, the manner in which intelligence data is gathered in a warfighting situation is greatly different from the collection methodology used during a humanitarian assistance/disaster relief operation. In fact, the very ability to conduct intelligence gathering operations in a HA/DR environment may be in question. In addition, the role and responsibilities associated with an organization such as a civil-military operations center (CMOC) would likely be very different in a warfighting and a MOOTW mission.

As a result, the scope and type of intelligence support required would change accordingly, thus driving critical resourcing decisions necessary to meet the attributes of intelligence operations expressed in figure one. The true challenge of course is how to meet the wide diversity of mission sets and the significant operational variables associated with each (e.g. language, culture, geographical, political, etc.) through the allocation of intelligence capabilities to meet mission requirements, and in a manner that satisfies all of the attributes for intelligence support to joint operations. The specifics of how this may (or may not) be accomplished will be the subject of future articles in this series.

Worldwide Joint Lessons Learned Conference

This November, all of us engaged in today's Joint Lessons Learned activities will have an opportunity to directly influence how tomorrow's Joint Lesson Learned Program will evolve. Remarkable as it seems, the Joint community has yet to commit to full development of a coherent, fully accessible, universal lessons learned program. On November 1st and 2nd, we will co-host, with the Joint Center for Lessons Learned (JCLL) the first world-wide Joint Lessons Learned conference and one of our primary goals is to lay the foundation for that commitment.



The conference will be an “action-oriented” venue, consisting of briefings, presentations, and symposiums. While action-officer level attendance is expected, the conference will afford participants opportunities to work toward consensus on a number of important issues facing the joint lessons learned community.

One of the conference's premier goals will be accomplished simply by its execution. By gathering together, representatives for the regional and functional CINCs, agencies, the Joint Staff, and academics will have the opportunity to collectively map a lessons learned way ahead. Simply put, the conference will go a long way to establishing a *community*, a community focused on creating a Lessons Learned Program that will enhance the operational capabilities of our nation's Joint forces.

Another key conference objective will be establishment of requirements for a future Joint Lessons Learned Program. We are not yet looking to precisely define how the program will look, but rather hope to frame key rules and assumptions. For example, we have yet to develop a cogent mission statement for a Joint Lessons Learned Program nor have we agreed to a set of standards for what such a program should provide Joint forces.

As we fully frame what it is we want to do, we will also explore how to get the job done. Participants can expect to review alternatives to the current Joint After Action Reports, possible evolutions of the current Lessons

Learned Program, and a final update of the revised the Chairman of the Joint Chiefs of Staff Lessons Learned Instruction (CJCSI). Also, we will explore how to support and interface with the new Joint Training Information Management System.

Given the aforementioned issues, what should you do to prepare for the conference? First, help your leadership develop a clear vision of what they expect from the Joint Lessons Learned Program. Review the CJCSI and ensure its suitability for your command's priorities, it will become one of the foundations for the Joint lessons learned community. If you haven't already done so, expand your horizons and delve into writings by experts in the lessons learned and knowledge management disciplines. Some of those experts are expected to provide briefings and symposiums at the conference and you will benefit most if you come somewhat prepared. Finally, participate now. The agenda for the conference is still being developed, and you should be a critical part of that development. Tell us what you would like to see and discuss during the conference, pass along your command's priorities, and come prepared to tackle some tough issues. Bottom line, it's your participation that is the driving force behind the conference and its ultimate goal, development of a world-class Joint Lessons Learned Program.

Conference Website:

<http://www.jwfc.jfcom.mil/dodnato/conferences/jcll/>

JOINT CENTER FOR LESSONS LEARNED BULLETIN

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3. We make changes to our on-line version of the Bulletin as we receive feedback and additional information. Would you like to be notified electronically of these changes? NO YES, my Email address is: _____

4. Do you want to see referenced Lessons Learned in the Bulletin? YES NO

COMMENTS: please place any comments you may have on the back of this page

Optional information:

Name: _____ Command: _____

Address: _____

Telephone: _____ Fax: _____ E-mail _____

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