The Impact of Advanced Distributed Learning (ADL) on Joint Readiness: An Operational View

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"The views expressed in this article are those of the author and do not reflect the official policy or position of the Department of Defense or the US Government"

Abstract

A principal mission of the United States Joint Forces Command (USJFCOM) Joint Warfighting Center (JWFC) is to provide worldwide, high fidelity Joint training to potential Joint Task Force commanders and their staffs. USJFCOM currently employs several mechanisms to accomplish this mission, including computer-assisted distributed exercises, Deployable Training Teams, and other tailored Joint interoperability training events. The tactics, techniques, procedures, strategies, and skills developed and applied during these evolutions constitute the "content" referred to in this paper. Capturing the essence of this critical Joint warfighting content and making it available to Joint warfighters via both classified and unclassified web sites is a concept that has been embraced by the senior leadership at USJFCOM.

Distributed learning (distance learning) is structured learning that takes place without requiring the physical presence of an instructor. Advanced Distributed Learning (ADL) is an evolution of distributed learning that emphasizes collaboration on standards-based versions of reusable objects, networks, and learning management systems, and possibly some legacy methods and media. Senior military and government leaders at USJFCOM and JWFC believe that using ADL will have an immediate and lasting impact on Joint readiness.

This paper will first examine some important background information designed to paint a strategic picture of how ADL fits into the operational application. It will then articulate how using ADL can assist a JTF Commander in meeting specific staff training requirements, allowing the staff to better support mission execution.

Biographical Sketch

Mr. Joe Camacho is a graduate of the United States Naval Academy, who completed a 20 year career in Naval Aviation flying A-6 Intruder aircraft and serving in several staff positions involving various duties and responsibilities. His last military assignment was with USJFCOM as an Observer/Trainer Team Chief providing three-star level Joint Task Force Commander and Staff training to Joint forces. During his final tour of active duty, as an additional duty, Mr. Camacho was assigned as the project officer for the emerging joint distributed learning effort for the JWFC. He implemented JWFC's program through the conception, development, and execution of the Joint Distributed Learning Center (JDLC). Mr. Camacho retired in November of 1998 and is now an employee of TRW Inc., providing contract support to USJFCOM as Director of the JDLC.

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Introduction

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Distributed learning (distance learning) is structured learning that takes place without requiring the physical presence of an instructor. Advanced Distributed Learning (ADL) is an evolution of distributed learning that emphasizes collaboration on standards-based versions of reusable objects, networks, and learning management systems, and possibly some legacy methods and media. Senior military and government leaders at USJFCOM and JWFC believe that using ADL will have an immediate and lasting impact on Joint readiness.

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Background

Information Superiority is an integral piece of Joint Vision 2020. USJFCOM's JWFC, a knowledge-based organization, initiated a program to capture, assess, develop, and validate Joint training content and make it available to Joint operators worldwide.

The operators targeted were warfighters unable to participate in Joint training exercises or Deployable Training Team events. Also targeted were warfighters who had participated in a Joint training event but wanted the most current Joint training information. They would be able to "reach back" to the JWFC via the web for content that would help them better execute their duties during exercises or real-world operations. This information would be available to the Joint warfighter 24 hours a day and 7 days a week. Below is a graphic depiction of this concept:

Figure 1.

The Vision

The concept of web-based Joint content was formally articulated in the JWFC Commander's vision of the ADL:

"To be a single comprehensive source of web-based Joint training and review opportunities for members of JTF and CINC Battle Staffs preparing to participate in Joint training exercises and real-world operations, in accordance with supported CINCs' joint mission essential tasks."

The Guidance

The JWFC Commander's guidance for execution of the vision was clear and straightforward:

- Coordinate "up, laterally, and down." Ensure that all JWFC efforts are consistent with the policy and technical standards of the Office of the Secretary of Defense, the Joint Staff, other CINCs, and the Services.
- Develop a repository that provides "unlimited" storage, instant retrieval, and instant updating of data.
- Ensure that all products are developed "by operators, for operators."
- Create an "on-line" prototype in six to nine months for proof of concept to coincide with an upcoming major USJFCOM Joint training exercise.

Coordination

The first task in the JWFC Commander's guidance was a robust coordination effort. It was paramount to leverage and collaborate a project of this scope and complexity with related efforts. Accordingly, coordination with the Office of the Secretary of Defense, the Joint Staff, and the National Defense University was undertaken from the beginning. The overarching strategic effort impacting all of these was the ADL initiative, led by the Deputy Undersecretary of Defense for Personnel and Readiness (DUSD P&R). Close collaboration resulted in a smoothly coordinated and totally integrated effort to develop ADL at the JWFC in accordance with DoD policy.

However, lateral coordination with the other warfighting CINCs proved to be challenging. Initial contact at the working level revealed that the other CINCs were consumed with the operational affairs within their Areas of Responsibility (AORs). ADL was considered a "soft" program, meaning it had no immediate operational impact on the AOR. The other CINCs recommended that USJFCOM take the lead and pave the way in this "new" area.

Service coordination proved to be complicated as well. There were many complex issues to be dealt with, not the least of which involved legacy data systems, "zero sum" resources, and Title 10 Service perspectives. Accordingly, it was determined that coordination with the Services and CINCs was more appropriately executed by senior government representatives at the DUSD P&R via Total Force Distributed Learning Action Team meetings hosted monthly in the Pentagon. USJFCOM participation in these meetings provided situational awareness of the strategic, operational, and tactical level ADL efforts throughout DoD and facilitated "up, lateral, and down" coordination.

The Digital Repository

The next task of the JWFC Commander's guidance was a digital repository. The notion of a digital repository for the "unlimited" storage of all data and content envisioned for future development was acknowledged to be the technical foundation of the effort. Existing exercise, experimentation, and simulation data, along with documents, publications, and other relevant information would be digitally converted from analog format and then stored. There were already efforts underway to create a Joint Digital Library System (JDLS) within the JWFC. The JDLS is an integrated system of computer tools, services, data, applications, and human processes. It provides cataloguing, indexing, processing, data mining, filtering, storage, search, distribution, and security of data using web-based technologies. Developing the ADL using the JDLS as a technical starting point proved to be a prudent decision.

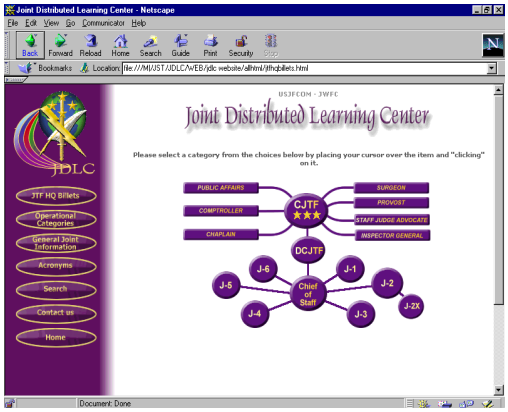
Operators' Requirements

The next task was the operators' role in the program development. Due to their functional expertise and knowledge of Joint training requirements at the operational level, the JWFC Observer/Trainers were chosen as the focal point for all operator input.

Although the JDLS is the foundation of the JWFC ADL effort and contains a vast amount of data pertaining to Joint warfighting, the raw data stored is not in a filtered format that is readily useful to the warfighter. The operators' input can be summed up in a simple notion articulated by a senior Marine Corps Colonel: "Give me the summary version of the critical information I need to know, and tell it to me in a way that I can understand it." This led to the development of a spectrum of products that provide *essential summary information* to the user in a format that was easily recognized and understood by operators.

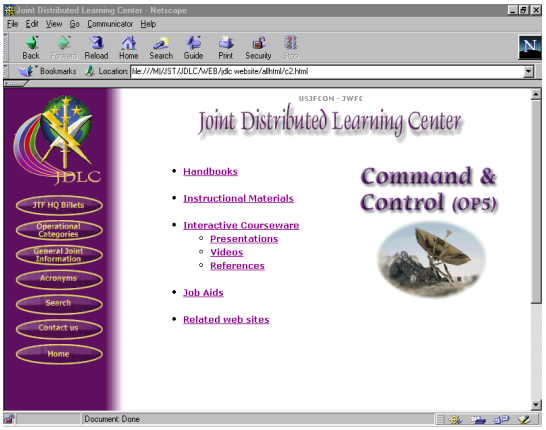
Having listed the operators' needs and desires, an *information portal* approach was adopted for the web site. The portal was designed for intuitive navigation and ease of use, based on an environment familiar to the operator. The result was the home page shown below:

Figure 2.



Further interaction with the web site reveals information catalogued by job or Operational Category as defined in the Joint Mission Essential Task List. The products consist of handbooks, videos, interactive courseware modules, job aids, references, presentation, links to related sites, and assorted sample products, depicted on the web site as shown:

Figure 3.



In order to aid those warfighters who are interested in detailed products resulting from dedicated research, the JDLC web site is designed to provide several search engines for different layers of available data. The user can search the summary products, the JWFC Research Library (for categorized information), the Joint Center for Lessons Learned (for specific information), and finally the JDLS (for raw data). These different layers give information in various forms of detail, made available to the user directly through linkages from the JDLC web site.

The Joint Distributed Learning Center (JDLC)

The final task in the JWFC Commander's guidance was the development of the prototype. The JWFC is responsible for all matters concerning web-site maintenance as well as management of the efforts coordinating the development, production, validation, and posting of Joint warfighting content. The JDLC was to be an anytime and anywhere mechanism for delivering content to Joint warfighters in the field. The JDLC prototype was developed and tested during a major UNIFIED ENDEAVOR exercise hosted at the JWFC, and was sampled by a small number of select officers participating in the exercise. Their feedback indicated the site was useful, but needed to be made more robust. Their comments were considered proof of concept.

Content Development

Having completed the tasks of the Commander's guidance for the creation of the JDLC, the next step in the program was content development and validation. There were two key issues that had to be resolved in the development of content. The first was the availability of the Observer/ Trainers for military oversight, review, and final approval for the accuracy and *look and feel* of the content.

As members of the JWFC Deployable Training Team, the Observer/Trainers were routinely deployed as many as nine months each year, with preparation for future exercises taking up most of their time. How would Observer/Trainers find the time to develop robust content for the web? Senior Military Analysts (SMAs) made up of retired military officers provide contract support to the Observer/Trainers and the JWFC in the execution of exercises and other joint training events. The SMAs were assigned to develop the draft content, leaving the Observer/Trainers the less time-consuming but critical roles of oversight, review, and certification.

Content Validation

The second key issue concerned content validation. The JDLC content is unique and very different from published academic or commercial information that in most cases can be easily converted from existing publications or courses for web-based access. The content contained in the JWFC web site was training which had to be tailored to a specific individual. An additional factor was that this training could potentially be used in real-world operations. It therefore had to be accurate, up-to-date, validated, and approved for distribution by USJFCOM. To facilitate this requirement, the JWFC Commander delegated the authority to validate and approve all of the web-based products for distribution to the JWFC Training and Exercise Division. The rationale for this decision was based on the fact that the Observer/Trainers are the experts in training Joint forces worldwide and the JDLC web site is merely another medium to articulate Joint warfighting expertise to operators in the field.

The Dilemma

It would be ideal if all our military officers had a wealth of joint experience and knowledge. Although the situation is improving, the reality is that many officers are still not experienced in Joint Task Force Commander and staff issues. Because of the ad hoc nature of US Joint Task Forces, Commanders have precious little time to form their staff and train internally before the operational tempo increases exponentially and the fog of war is upon them. Staff members not experienced in Joint Task Force staff matters need time to learn their jobs. Most staff members are still learning the basics of their job when JTF operations commence. Joint warfighting, often referred to as an "operational art," is very complex and takes time and experience to master. Limited staff experience and time to train are typically the first "enemies" the JTF Commander must deal with.

Therein lies the dilemma: The Joint Task Force Commander and staff are typically organized based on the operational requirement and are brought together "at the last minute". The staff comes together with limited experience and almost no time working together. Compounding the situation is that they have precious little time before deployment. ADL has no impact on actual experience, but can give the user the benefit of the experience of others. Additionally, ADL can have a significant impact on the time available to train and the quality of the training. The following graphics depict the dilemma and how ADL can potentially help the situation:

Figure 4.

Typical JTF Commander's dilemma:

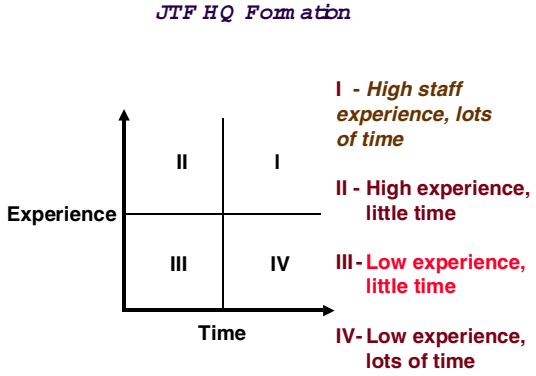
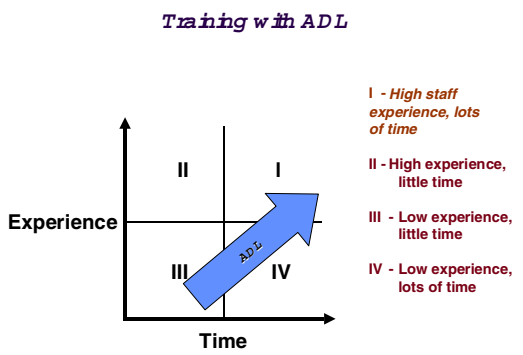


Figure 5.



The JTF Commander desires to move the staff as quickly as possible to the right and vertically on the preceding graphs. This will require a monumental effort on the part of the staff's senior leadership. The use of ADL can clearly help him use the time train as efficiently and effectively as possible, moving his staff into block IV sooner.

Forming a JTF staff is a very complex problem. There are reception and processing, staff training and guidance, staff processes, staff battle rhythm, command and control systems, and even Service cultural issues that need to be addressed through training and awareness events before the staff can begin to achieve staff synchronization. The sooner the staff achieves this maturity, the sooner they can effectively assist the Commander in executing the mission.

It is clear that the officers assigned to the newly formed Joint Task Force need essential information on the basic elements of their jobs as fast as they can get it, anytime and anywhere they need it. They need to have it fed to them in an easily digestible form at a rate they are individually or collectively comfortable with. A robust web site containing critical information and made accessible to the operator anytime and anywhere will help alleviate the problem by allowing staff members to access what they need *prior* to entering the staff environment or *during* their orientation to the staff. This moves them more to the right on the graphs depicted previously and gets them to the staff synchronization point sooner. Once fully synchronized, the JTF Commander can then rely on the staff to support mission execution.

Let's look at the following example: An Army Colonel with no Joint experience is assigned as the Director of Operations on a newly formed Joint Task Force. How does he prepare to execute his duties? Where does he get information on how to do his job? How does he interface with the Joint Operations Center?

These are questions that staff members need to answer NOW in order to get the job done. *Using the ADL* can help reduce the time it takes them to get these answers and help make them familiar with their jobs more quickly. Even after the staff has been formed and is functional and synchronized, ADL can be used to tackle new problem sets that emerge. This is done by providing access to lessons learned or previous solutions to similar problems experienced by other JTFs.

Conclusion

Two challenges that initially face a new JTF Commander are having a staff with limited experience and knowledge having little time to train them. The use of tools to meet those challenges is key to the Commander's success on the battlefield. The use of systems that allow the staff to train faster, become more efficient, and achieve operational synchronization sooner will clearly impact readiness. Anytime and anywhere information, training, mentoring, and learning can greatly assist a staff with limited experience and knowledge. Immediate access to critical information shortens the time it takes for a JTF staff to become synchronized. This time can then be spent better supporting the Commander and the mission. This is where ADL will have its greatest impact on the JTF commander and staff. The use of a robust web site which provides all JTF staff members with critical information anytime and anywhere will not only have a positive impact on readiness, but may help make the difference in a future conflict involving Joint forces.

USJFCOM's JWFC is exploring the use of ADL for training, but has no real experience in this area. So in order to complete the normal training cycle, JWFC is establishing metrics that will enable us to analyze our ADL efforts and determine ways to assess it's value added and where needed, make it better. But until those formal metrics are completed and used to validate our efforts, it is anticipated that the measured impact of ADL on Joint readiness will be significant.