

The

Spring/Winter 2016 | Edition 23

DL STAR



Distributed Learning Supporting Training Awareness and Readiness



HALFWAY THROUGH FY16

Numerous challenging, time-sensitive actions underway, being worked through the processes



By Helen A. Remily
TCM TADLP

DL Teammates, first of all, I would like to welcome you to the 23rd edition of the DL Star. As we teeter between the throws of winter and early spring, it has been a whirlwind journey from the first of the year until now, and the journey isn't slowing down as we move full swing into spring in the midst of March madness.

I want to thank the DL community for its support and input on a number of activities and meetings. We have undergone several sessions of IT/DL CoCs in preparation for a series of upcoming TGOSC sessions. We have just finished the TADLP PMR 16-2, which we combined with the Training Infrastructure Information (TII) Management Review to discuss challenges and synchronize efforts across the U.S. Army DL community. Most recently, we participated in the Distributed Learning Coordinating Committee (DLCC) to discuss major challenges with our partners in the Sister Services.

We continue to make in-roads and improvements to the DL program. Some of the highlighted improvements are:

- establishing mobile application vetting capability;
- identifying requirements and establishing capabilities for support of the Army University;
- executing the process of awarding contracts to develop interactive digital publications;

"Our Soldiers and Civilians are using the products and content you all provide for readiness and self-improvement."

- improving the enterprise content development capability;
- rectifying Army-wide mandatory DL Section 508 non-conformance;
- mobilizing the effort for rapid development of mobile apps.

We are prioritizing now and will finalize the FY17 TADLP nomination list for submission to CG, CAC, and continue to evaluate mobile learning technologies in the coming weeks.

From my vantage point, and hopefully yours, we are making a noteworthy difference in the program. Our Soldiers and Civilians are using the products and content you all provide for readiness and self-improvement. During the PMR, we saw some innovative ideas and products that continue to move us forward. I ask that you continue to allow us to showcase your products, for they, indeed, validate and document our mission efforts and benefit the community as a whole.

We have some relevant and exciting articles and topics for your review. Perhaps this newsletter will provide ideas and inspiration for you to share and showcase what you are doing at your school with the entire Army. Enjoy and spread the news! **HR**

INSIDE THE STAR FEATURES



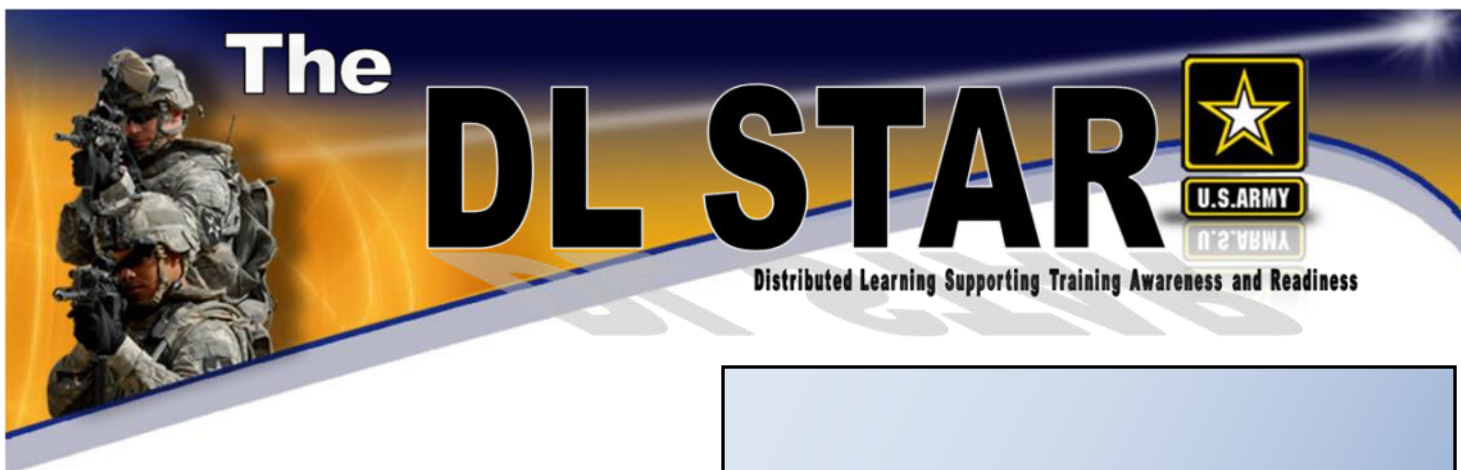
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Developing Living Doctrine: A Team Effort at MCoE

By the Life Long Learning Programs Branch Team
Maneuver Center of Excellence, Fort Benning, GA

One of the latest buzz words being used throughout the training and education community of practice is “living doctrine.” But do you know what it actually is or means?

The Combined Arms Center (CAC), Fort Leavenworth, Kansas, notes in the white paper “The Human Dimension” that “living doctrine employs interactive and multimedia learning platforms that bring doctrinal concepts to Soldiers and leaders at the point and time of need” (2014).

“While much of the discussion regarding living doctrine has focused on making it more engaging and accessible, we are looking at a larger goal of making these products truly ‘learning products’ in that they are not only doctrinal references, but also can be used for instructional purposes,” Dr. Jay Brimstin, Deputy Director of MCoE DOTD, stated.

“We think that this can significantly streamline the process of developing the lesson plans we use in the schoolhouse, as well as providing ready to use training products for unit LPDs.”

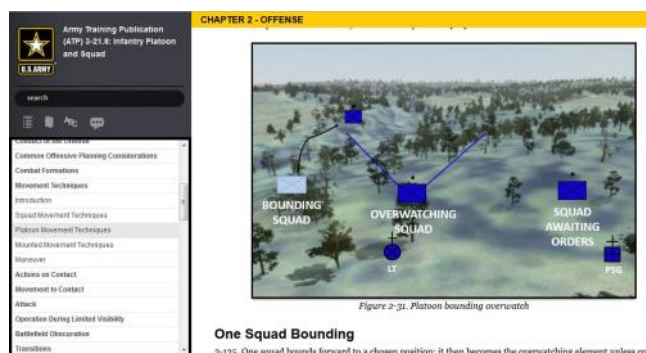
Why Living Doctrine?

The advantage of living doctrine is convenience and engagement—a trainer or trainee can quickly seek and find relevant content and save it to their computer or mobile device. The once static information on the pages of

doctrinal manuals literally comes to life, through animations, videos, and other multimedia attributes. Soldiers can update or adapt it, or import it into other training products, even without an Internet connection.

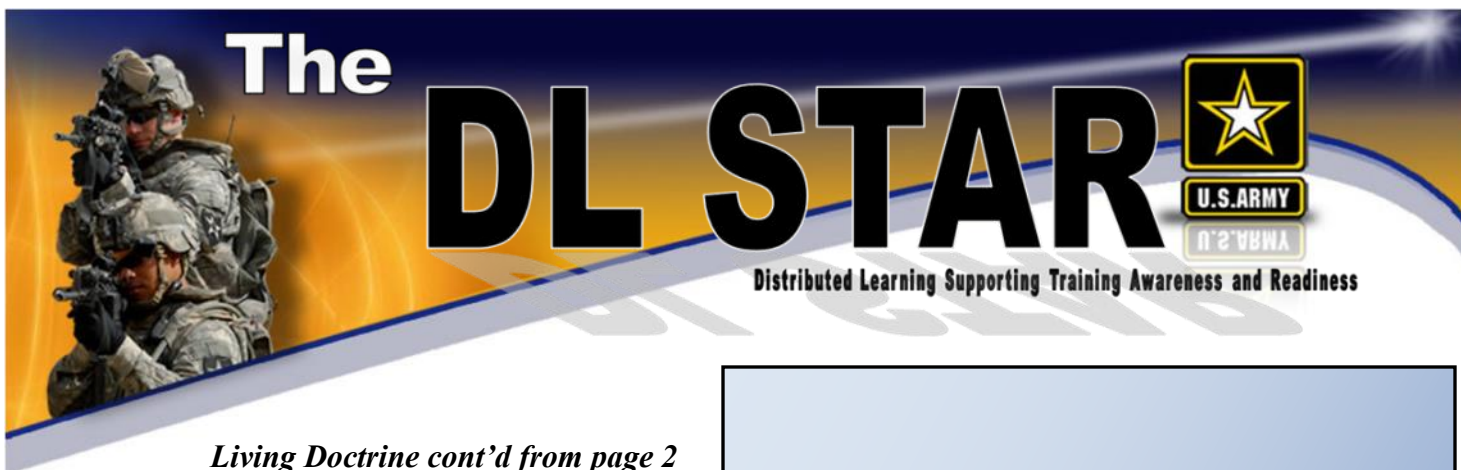
ATP 3-21.8 comes alive!

To meet CAC’s definition of living doctrine and to mirror the success of the multimedia version of ADRP 1, the MCoE has tasked DOTD’s Life Long Learning Programs Branch (LLLPB) to develop living doctrine for the MCoE. LLLPB is using Army Techniques Publication (ATP) 3-21.8, *Infantry Platoon and Squad*. ATP 3-21.8 is pivotal doctrine for the MCoE and the Army comprehensively. The target audience includes trainers, leaders, and Soldiers across the generating and operating forces.



This effort was originally nominated for funding through TADLP in FY14. The initial work on this endeavor was provided through the MCoE out-sourcing the design and development of this pioneering living doctrine product, modeling its structure and content on a doctrinal manual under development and applicable to the largest audience possible. Following 1 year of contracted effort, LLLPB assumed responsibility for continuing the development through completion.

Living Doctrine continues on page 3.



Living Doctrine cont'd from page 2

In coordination and collaboration with the MCoE's Doctrine and Collective Training Division, the LLLPB team enhanced:

- black and white graphics using color to improve understanding,
 - embedded doctrinal references for easy access
 - reformatted the layout and
 - developed vignettes and short videos to demonstrate practical uses for the product's doctrinal constructs
- Redevelopment of ATP 3-21.8 as a living doctrine product also included adding two supporting applications--a range card development tool and an interactive engagement area builder. The user can download and access both to reinforce the doctrinal principles in the living doctrine manual.

What's Next?

The MCoE has scheduled beta testing for this spring. In the meantime, the MCoE has partnered with other contractors to develop similar treatments for ATP 3-90.1, *Armor and Mechanized Infantry* and ATP 3-20.15, *Tank Platoon*.

"These initial efforts we're working are the first small steps toward realizing this greater vision," Brimstin said. "We still have a long way to go as we work through policy issues as well as technology challenges. The support from the team at TCM TADLP has been tremendous. I consider them to be one of the key enablers of innovation."

The MCoE Team: Billy Massengill is the lead videographer, graphic designer, and instructor for game-based training. Brett Hattaway is the lead programmer, lead developer, and MCOE Blackboard domain administrator. Tyrone Gardner is the assistant graphic designer and assistant instructor for game-based training. He is also responsible for quality assurance. James Ocheske is the assistant programmer, assistant developer, alternate MCOE Blackboard domain administrator, and distributed mobile learning content manager.

Reference: United States Army Combined Arms Center (CAC) (2014). *The Human Dimension White Paper: A Framework for Optimizing Human Performance*. Fort Leavenworth, KS.

Cognitive Load, *Army DL design considerations*

By Tammy Bankus, Ed. S.

Institute for NCO Professional Development

In a complex and ever-uncertain environment, the Army strives to meet unknown future challenges.

One method to meet these challenges is to provide innovative training and education through effective distance learning (DL). Effective DL design is based on

From the Research

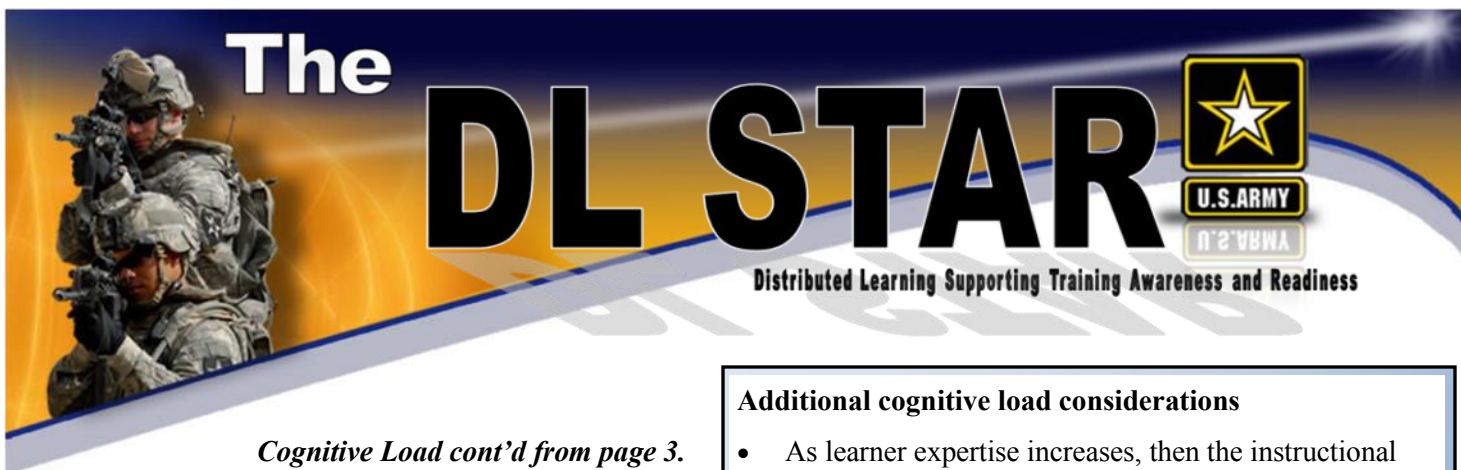
solid cognitive load principles. This

means applying information from human cognitive architecture to "best practices" in instructional design (Sweller, Ayers, & Kalyuga, 2011).

Cognitive load considerations are primarily important when learning complex tasks. Complex tasks require several interacting elements that impact memory traces, limitations, and processes. Sweller (1998) coined the term cognitive load theory, which accounts for how working memory affects learning by looking at the limitations of cognitive architecture. To explain memory-processing limitations, it accounts for the inherent difficulty of the material, the learners' prior knowledge, the design of the instruction, and the amount of mental effort the individual exerts into learning the material.

This process is explained by accounting for memory capacity, knowledge centers or schemas, and the amount of information the learner needs to hold in working memory before it is stored in long-term memory.

Cognitive Load continues on page 4



Cognitive Load cont'd from page 3.

In summary, "Cognitive load theory is concerned with techniques for managing working memory load in order to facilitate the changes in long-term memory associated with schema construction and automation." (Paas, Renkl, Sweller, 2003, p. 3).

Schemas are this inherent difficulty that causes high or low cognitive load, which is determined by the level of element interactivity (Sweller, 1998). Effective instructional design techniques free up the amount of cognitive resources available in working memory. Overall, learning performance will degrade if cognitive load is high or too low, potentially leading to the learner's ceasing to learn.

Although this is a brief discussion on cognitive load, it helps to create the awareness of how to consider cognitive load when designing Army DL materials. Mayer and his colleagues conducted extensive research into this area. Below are a few of their findings for additional consideration:

- Modality effect: better transfer when words are presented as narration rather than as on-screen text.
- Pre-training effect: better transfer when students know names and behaviors of symptom components (providing a foundation).
- Coherence effect: better training when extraneous material is excluded.
- Signaling effect: better transfer when signals are included (highlighting words etc.).
- Redundancy effect: better transfer when words are presented as narration rather than narration and on-screen text.
- Temporal contiguity effect: better transfer when corresponding animation and narration are presented simultaneously rather than successively. (Mayer & Moreno, 2003)

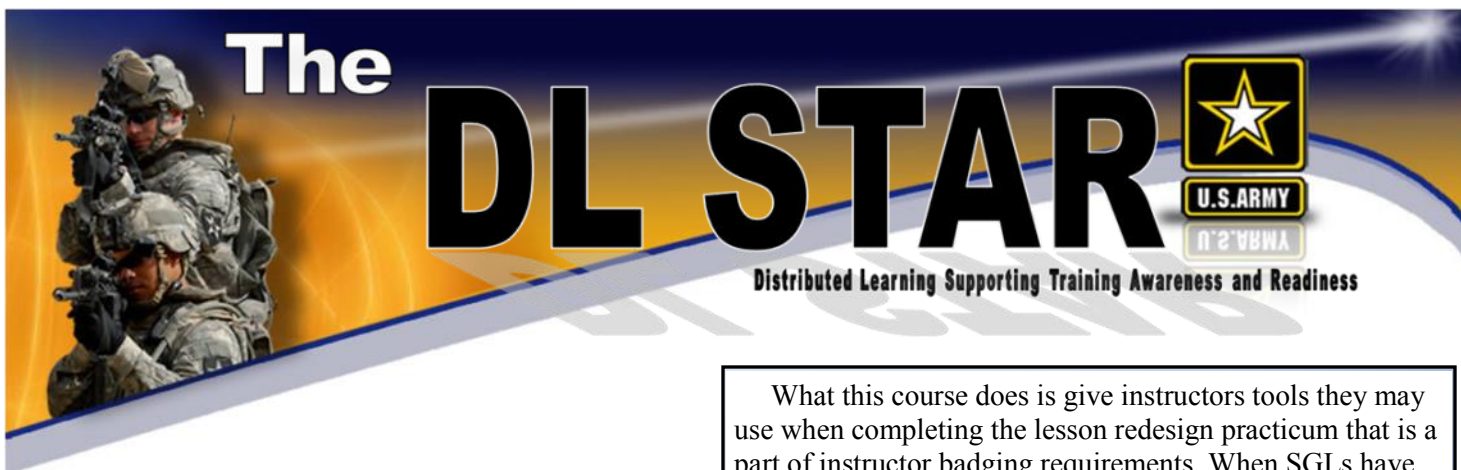
Additional cognitive load considerations

- As learner expertise increases, then the instructional procedures used should change.
- Novice learners need different types of tasks than expert learners.
- When worked examples are used, they should be "process"-based examples explaining how and why steps were taken to solve a problem. (Caution: these should be designed carefully to avoid split-attention and redundancy).
- Working memory resources are freed up through schema automation. One way to increase automation is through practice exercises. (Paas, F., Renkl, A., & Sweller, J. (2004)). Cognitive load theory: Instructional implications of the interaction between information structures and cognitive architecture. *Instructional Science*, 32(1), 1-8.)

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Tammy Bankus works for the Institute for NCO Professional Development (INCOPD), Learning Innovations & Initiative Division (LIID), HQ TRADOC, as a Senior Instructional Systems Specialist. She holds several Masters-level degrees in Psychology and Adult Education. She is completing her doctoral studies in Instructional Technology, Curriculum & Instruction, at Old Dominion University, Norfolk, VA.



Take it online: *The Instructional Design Basic Course*

By Dr. Liston W. Bailey

*Chief, Learning Innovations and Initiatives Division,
Institute for NCO Professional Development*

Since April of 2014, more than 2,200 Army instructors have been able to take the online Instructional Design Basic Course (IDBC) on the Army Learning Management System.

Many more military instructors and training developers are expected to enroll in the eight-module online course over the next several years.

IDBC is now a part of the instructor development and recognition program badging requirements for those military instructors who seek to attain the Senior Army Instructor Badge. The Institute for NCO Professional Development (INCOPD) created the course in order to optimize instructor performance and to give Small Group Leaders (SGLs) assigned to NCO Professional Military Education (PME) responsibilities a better understanding of how learning works.

IDBC as a training approach is situated within the self-development domain and provides important knowledge to military instructors. Moreover, we believe that an instructor armed with essential knowledge about learning design will be better able to manage the events of instruction that promote learning.

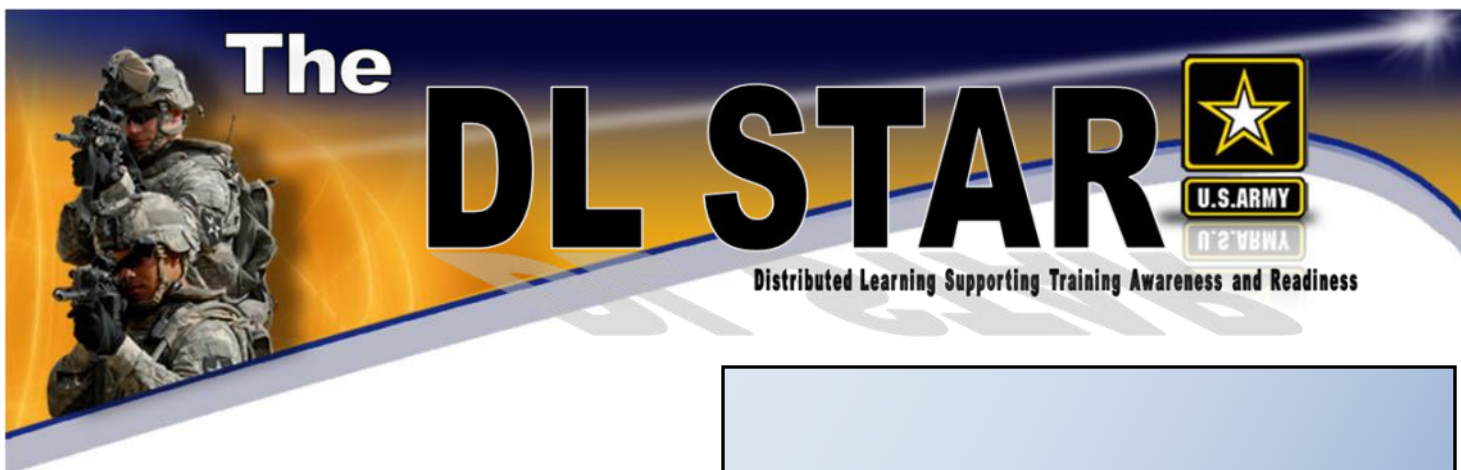
IDBC is an innovation intended to support implementation and sustainment of the Army Learning Model in PME. For example, the online IDBC teaches learning science theory related to cognitive learning processes, learn-to-learn strategies for self-learning, lesson design principles, and teaching content types (i.e., facts, concepts, processes, principles, and procedures).

What this course does is give instructors tools they may use when completing the lesson redesign practicum that is a part of instructor badging requirements. When SGLs have their lesson redesign project graded (by their local staff and faculty office personnel), they are required to apply what they have learned in this course to make meaningful changes to learning content. *For example, did they change the lesson motivator or lead-in to get the learner's attention or to activate prior knowledge?*

How did they change the lesson content to differentiate between teaching a fact versus teaching a procedure? Based on the redesigned lesson content, how would the proposed lesson redesign facilitate practice and provide meaningful feedback? The original IDBC was designed by Dr. Gary Rauchfuss, a training developer and instructional designer formerly assigned to the INCOPD. It has been taught in face-to-face format over the past 3 years. However, in order to make the course more widely available to the broader Army, INCOPD decided to distribute the course online. The online course requires learners to interact with the content, answer check-on-learning questions, and pass an end-of-course exam with a minimum score of 80 percent.

INCOPD serves as the supported organization for the rollout of the NCO Professional Development System (NCOPDS). As such, INCOPD embraces the idea of using educational technology and distance learning applications to support optimized performance of Soldiers. Evidence-based learning strategies and technology applications like online DL and mobile apps are part of this strategy. Thanks to the assistance of the TADLP, the instructional design basic course for military instructors is a learning innovation that will have great returns for the Army by producing more knowledgeable and capable instructors in Army schools.

Dr. Liston W. Bailey is a program analyst and serves as Chief, Learning Innovations and Initiatives Division, Institute for Noncommissioned Officer Professional Development. For more information on the NCO Professional Development System visit the following link. <http://armypress.dodlive.mil/building-the-new-nco-professional-development-system/>.



The TADLP Website: *A premiere resource for the Distributed Learning community*

By Robert Roberts
robert.r.roberts12.civ@mail.mil

The Army Distributed Learning Program (TADLP) website is the premiere one-stop solution to find complete and current information related to Distributed Learning (DL) development and mobile learning.

The TADLP website provides a wide range of information for DL through all steps of the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) process. Organizationally, the website consists of eight sections:

- Home
- TCM TADLP
- Governance & Policy
- Content Process
- Capabilities
- Implementation
- TCM Mobile
- Contact Us.

Each TADLP branch office provides content for the section of the website that the specific office is responsible for. The content is reviewed and updated regularly.

The **Home** page provides the mission statement of the TADLP, as well as an introduction of the TRADOC Capability Manager (TCM) TADLP. The DL STAR link in this section connects readers to the current edition and to all past editions. The Content Showcase on the page highlights a few of the innovative DL products developed in partnership with Army proponents and courseware developers.



The TCM TADLP page details the program vision, program overview, TCM TADLP charter, and a full biography for the TCM TADLP.

Governance & Policy contains links to Department of Defense (DoD), U.S. Army, and TRADOC publications and documents governing DL. Policies & ALARACTS is a centralized list of Memorandums of Understanding (MOU) and All Army Activities (ALARACTS). The Courseware Validation, Packaging & Testing Policy for the ALMS, Copyright Guidance, and the Combined Arms Products for Distributed Learning (CAPDL) Personally Identifiable Information (PII) MOU are some of the policies located in this section as well.

The **Content Process** section provides information ranging from DL Decision Criteria, contracted or in-house development considerations, nominating content, writing the Performance Work Statement (PWS), CAPDL contract ordering guide, and various guides and job aids.

Job aids are provided for needs & task analysis, reviewing the Instructional Media Design Plan (IMDP) and storyboards with examples of Levels of Interactivity. Information and resources for the Enterprise Content Development Capability (ECDC) courseware authoring tool is provided as well.

The **Capabilities** section houses information for the Army Learning Content and Management Capability (ALCMC). The ALCMC is a suite of capabilities that integrate training and education support capabilities to enhance training and education. Information for the Army Learning Management System (ALMS), Enterprise Lifelong Learning centers (ELLC), and Joint Knowledge Online (JKO) is in this section. The Capabilities section is also the home of the Army Correspondence Course Program (ACCP).



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TADLP Website cont'd from page 6.

Implementation is the “go-to information source” for SCORM conformance, the Army Business rules, and computer hardware and software configuration requirements for courseware developers. The Implementation section provides the specifications and requirements that DL content developers must adhere to when submitting distributed learning content to be accepted for fielding on the ALCMC content delivery platforms.

Another important aspect of the Implementation section is information on, as well as team reports from, the Army DL Diagnosis Analysis Research Technical (DART) team. DL DART reports document the results of exhaustive and detailed research and analysis of complex courseware issues ranging from modifying the master score to the use of Adobe Flash.

The **TCM Mobile** site was launched in February of this year. It contains the TCM Mobile mission statement, the TCM Mobile charter, and information for the planning and development of mobile apps. The TRADOC Application Gateway (TAG) is also covered, along with detailed steps on how to download the TAG app for both Android and iOS mobile devices. A portfolio of completed apps and information on how organizations will be able to create their own custom pages on the TAG is provided. A link to a video on YouTube provides an overview of the TAG and TAG App.



Contact information is provided for nominating new mobile products and TAG uploads. The Frequently Asked Questions (FAQ) section covers the TAG, TAG App, and developing mobile apps. The TCM Mobile site is mobile friendly, meaning visitors viewing the site with a smart phone or tablet will have the same content that is provided for desktops presented in a format and layout optimized for the mobile device.

The **Contact Us** section provides the TADLP mailing address, email address, and telephone number. The TADLP website is in a constant state of review and there is always room for improvement. Feedback and comments from the DL community are welcome.

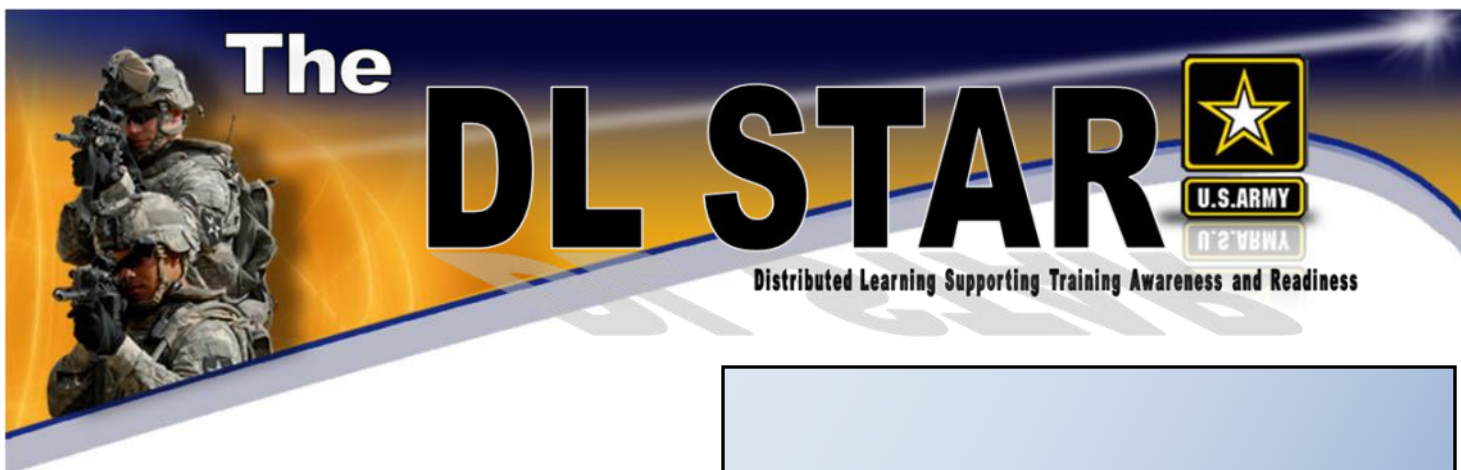
WEB ADDRESSES:

The **TADLP** website address is <https://www.atsc.army.mil/tadlp/>; The **TCM Mobile** website address is <https://www.atsc.army.mil/tadlp/mobile/>.

Robert Roberts is an Information Technology Specialist with the TADLP Strategic Plans & Policies Office, ATSC, Joint Base Langley-Eustis, VA. Mr. Roberts developed and maintains the TCM TADLP and TCM Mobile websites.

GOT DL?

Then consider sharing your DL development projects with the TADLP community of practice through the TADLP website. The Content Showcase is where TCM TADLP highlights innovative DL products developed in partnership with Army proponents and courseware developers. Send any inquiries about showcasing your projects to the TCM TADLP email: usar-my.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil. You may also call 757-878-4516 or 757-878-1725 for more information.



On the EDGE

Training virtually to Attack the Network

**From MCoE C-IED Integration Office,
Maneuver Center of Excellence, Fort Benning, GA**

The Maneuver Center of Excellence (MCoE) Attack the Network (AtN) Mobile Training Team (MTT) is now testing the use of a computer-based simulation as a final practice exercise for their classroom instruction.

This cutting-edge simulation is called the Enhanced Dynamic Geo-Social Environment—EDGE. The simulation contains an AtN scenario which allows Soldiers to interact in a virtual operating environment using the AtN doctrine and principles they have learned in the AtN MTT class.



During the simulation, Soldiers engage with different villagers in the virtual village of Kuzun, Atropia.

They gain information from these interactions and act on what they have learned. EDGE is a “First Person Thinker” simulation focused on interacting with people in their environment and making good decisions according to sound AtN principles.

The object is for Soldiers to interact with the villagers and environment of Kuzun, analyze what they learn, and make appropriate decisions based on AtN doctrine learned in class, and the Commander’s Intent given to them at the beginning of the virtual exercise. The simulation can be used as a single user exercise or function as a team play environment, where Soldiers collaborate in gaining information, communicating, and making decisions. There are a total of 6 virtual days within the simulation, each virtual day



taking about 1 hour to complete in real time. At the end of each virtual day, Soldiers can choose AtN-related actions from available options. Actions include identifying villagers as friendly, neutral, or threat; reviewing intelligence/results from previous day(s) operations; making decisions on conducting new operations; and employing available enablers to gain and exploit information on networks operating in the Kuzun area. Available support includes use of civil affairs teams, route clearance teams, UAVs, LEPs, MWDs and other useful enablers.

An important feature of EDGE is that actions taken each day will have some effect on options available on the following days, as well as an effect on the final outcome of the scenario. For example, if discovered evidence is not exploited, there will be no following information on that evidence, and a chance to identify an insurgent, or a threat network, will be lost.

An AAR is conducted by the instructor after the end of virtual day 6 and the EDGE program rates Soldier’s performance according to three factors:

- How well the Soldiers’ decisions resulted in meeting the Commander’s Intent.
- How accurately Soldiers identified characters as friendly, neutral, or hostile.
- How well the Soldiers’ decisions followed the AtN lines of effort: Support, Influence, and Neutralize.

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The

DL STAR



Distributed Learning Supporting Training Awareness and Readiness

On the Edge cont'd from page 8

While there are a number of possible outcomes for the scenario, both good and bad, there is a critical path of actions throughout the six virtual days which will lead to a "best possible outcome."

So far, the MCoE AtN MTT has employed EDGE during multiple training sessions at Fort Dix, Fort Campbell, Fort Carson, Fort Bragg, Fort Benning, and Fort Buchanan. Soldier reaction to the EDGE experience has been very positive and the MTT instructors agree it adds Soldier interaction and interest to the training sessions. The future direction for EDGE will be determined by MCoE and Army leadership.



For additional information or questions, contact:
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OIC; 706-545-8835, monte.a.koontz.mil@mail.mil

THINK DL INNOVATION.



ABOUT EDGE: It is a government owned prototype designed to represent a highly accurate Virtual Environment. The platform utilizes the latest Multi-player Online Gaming (MOG) technology and is designed for government organizations looking to enhance distributed training experiences using the latest commercial technology. The visually stunning environment leverages top-of-the-line game engine technology to create custom scenarios to fit the needs of almost any use case. EDGE is developed in partnership with the Training and Doctrine Command (TRADOC) and the Department of Homeland Security. This collaborative government prototype leverages investment across multiple government efforts to maximize efficiencies (cost savings) while focusing on small unit (first person) training efforts. EDGE operates on Unreal 3 game engine, and uses non-proprietary/open standards. It also offers a library of maps, art assets and avatars for reuse. It is scalable, in that high-fidelity virtual simulation tools allow multiple agencies, disciplines, and jurisdictions to train for various coordinated incident response. Tailored and cost-effective, virtual training links science and changing threats with various response procedures. Virtual training cannot replace the interaction involved in live training; however, there are opportunities to significantly reduce costs while increasing proficiency by applying technologies to enhance other training strategies. EDGE provides training simulations that demonstrate efficiencies while also improving training outcomes.

DL STAR'S ARTICLE SUBMISSIONS

The DL Star is always looking for timely and relevant articles to share with the TRADOC and TADLP communities of practice. The deadline for the next DL Star is 6 May 2016. Please consider sharing your experiences and expertise with your colleagues throughout the Army. Here are some simple steps to help guide you in the submission process:

- Use "active" voice (p.6) AR 25-50
- Be brief; limit to 800 words
- Proofread submissions
- Include copyright permissions, when appropriate
- Submit articles to: usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil; or call 757-878-1725 for more information.