

The

Summer 2015 | Edition 21

# DL STAR



Distributed Learning Supporting Training Awareness and Readiness



## PACING CHALLENGES WITH AGILITY, PATIENCE, AND PASSION AS DIVERSE TADLP MISSIONS AND THEMES EMERGE

By Helen A. Remily, TCM TADLP

The summer is certainly flying by; however, we continue to keep pace with this ever-growing program. The DL community remains ahead of the challenges and continues to play a significant role in supporting training awareness and Army readiness.



In conjunction with TRADOC's mobile learning and living doctrine initiatives, the themes of Human Dimension,

Cognitive Dominance, Realistic Training, and Institutional Agility continue to gain recognition and momentum.

We continue to evolve the mobile learning governance, process/procedures and improve the workflow model supporting mobile application development and fielding. Simultaneously, we are working with you to establish a much needed wireless infrastructure for TRADOC installations to help further operationalize the Army learning model and modernize the DL program.

TCM TADLP was selected as the lead in establishing interactive publication guidance and standards and in providing an enterprise capability

to assist you with developing IMI assets to integrate into publications. These enhanced electronic books (e2Books) will bring doctrine to life and improve learning by interactivity and sensory integration to increase cognitive understanding and retention. In coordination with the Center for Army Profession and Ethic, we developed Army Doctrine Reference Publication (ADRP-1), The Army

**...we continually map and refine our vision and goals to meet an evolving and often unpredictable military mission.**

Profession, as a proof of principle and developed an Army Comprehensive Doctrine mobile app, which provides access to doctrinal material and can be downloaded from Apple/Google/Windows commercial apps websites.

We are experiencing exciting times with new technology and emerging capabilities to help deliver quality training and education content to Soldiers at the point of need. Our commitment remains steadfast in providing the capability to update, change, and redesign learning content and technology integration strategies to accommodate innovation in complex and collaborative training environments. These challenges help develop adaptive and innovative Soldiers, leaders, teams, and units.

For your planning purposes, the Institutional Training/ Distributed Learning (IT/DL) Council of Colonels (CoC) is slated for 4 Aug, and the DL PMR is scheduled for 31 Aug - 2 Sep 2015. We look forward to your participation and discussions as we continually map and refine our vision and goals to meet an evolving and often unpredictable military mission.

As always, if you have any questions, opinions, or articles you would like to share with the community, please feel free to contact us at [usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil](mailto:usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil). We are proud to serve and support! **HR**

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# TRADOC Apps Gateway Ready for Business

*Refining the routes to mobile learning access and success*

**By R. Kenneth Crim**  
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After an incredible journey nearly 2 years in the making, the idea of a TRADOC Mobile Capability has come to be. The TRADOC Project Office (TPO) Mobile is open for business.

During the past 22 months, TPO Mobile has been able to learn from the efforts of the TRADOC Centers of Excellence (CoE) and schools—who over the past few years actually set the foundation for mobile with their own efforts.

The task of the TPO Mobile group has included five major lines of effort:

- infrastructure requirements;
- devices;
- governance and policy;
- funding streams;
- and the Mobile Apps process.

By the end of this fiscal year, eight CoEs and 32 schools will have been surveyed for the installation of a NIPR wireless capability, with final installation also completed by the end of the calendar year. The TAG is accepting the top three mobile Apps from the TRADOC CoEs and schools. Additionally, a mobile device survey request has been sent out to get an idea of the COE and school needs in terms of mobile devices.

Windows 8.1 has been approved. The TPO Mobile Office has now been staffed with six of the eight civilian and one military authorizations. There is now an Apps pro-

cess that has been briefed to all the CoEs and schools. TPO Mobile has worked closely with TRADOC G6, Army Chief Information Officer G6 (CIO G6), Program Executive Office Enterprise Information Systems (PEO EIS), and the Defense Information Systems Agency (DISA) to coordinate with their required information assurance policies and procedures. Finally, TPO Mobile, a non-enduring entity, will become TRADOC Capability Manager Mobile (TCM Mobile) under the TRADOC Capability Manager, The Army Distributed Learning Program (TCM TADLP). This has been a major undertaking to

the appropriate proponent? Working closely with TCM, Army Training Information Systems (TCM ATIS), TPO Mobile has established a TRADOC Apps Gateway (TAG) to host Apps and interactive digital publications (enhanced E-books and publications). Now a Soldier will have one place to go where there will be proponent created and approved content that is accessible and reportable. The TAG provides the Soldier with the appropriate training and credit for the training taken. CoEs and schools will be able to develop Apps in one of three ways:

- Proponent developed
- TCM Mobile team developed
- A TCM TADLP centralized contract process.

The easiest route for proponents is internal development. The advantage here is that the proponent subject matter experts (SMEs) are immediately available as are other local assets necessary for

Apps approval such as: local JAG approval, PAO approval for release, and other required government furnished information (GFI) necessary to move the App forward. Local production also allows for rapid change ability as information contained in the App needs to be changed.

It is also understood that some CoEs and schools may not have the personnel with the requisite skills to do this. That is where the other two routes for App creation come into play. TCM TADLP is developing the

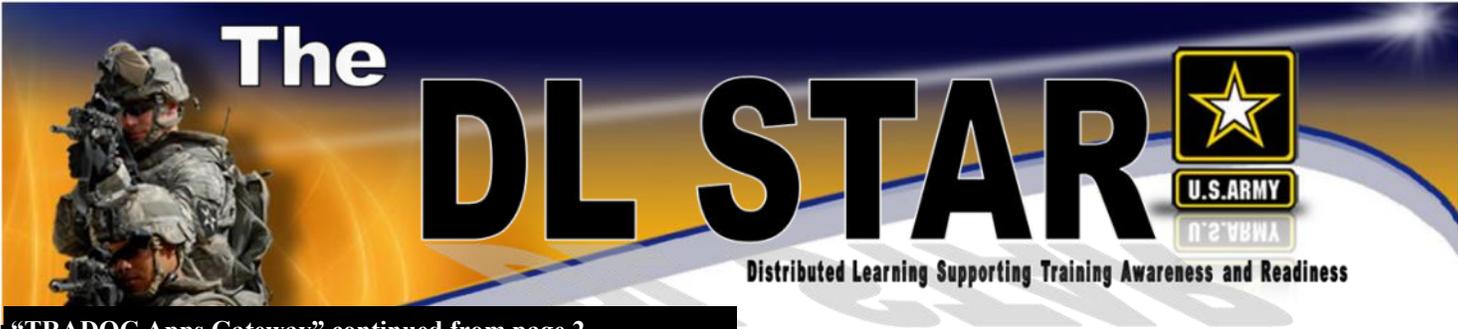
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## **TCM TADLP is developing the process to support a centralized development capability for mobile applications and electronic publications.**

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accomplish all of this in such a short period of time.

One of the most important products of the TCM Mobile effort has been Mobile Apps. Over the years, industrious Soldiers have been creating Apps on their own and have posted them to the varied Marketplaces available. The challenge of this independent process is the veracity and accuracy of the Apps themselves: Is the information accurate? Is it at the appropriate security level? Has it been approved and vetted by



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“TRADOC Apps Gateway” continued from page 2

process to support a centralized development capability for mobile applications and electronic publications. The intent is twofold: to provide an internal development capability through TPO Mobile for rapid development of products and provide a centralized contract for the design and development of applications and interactive digital publications that are beyond the limits of TPO Mobile. The internal development capability is expected to be operational in 4QFY15. The centralized contracts to support both electronic publications and mobile application development will be established during 1QFY16. TPO Mobile has also developed a nomination process for Mobile App requests. To the right is a schematic of that process.

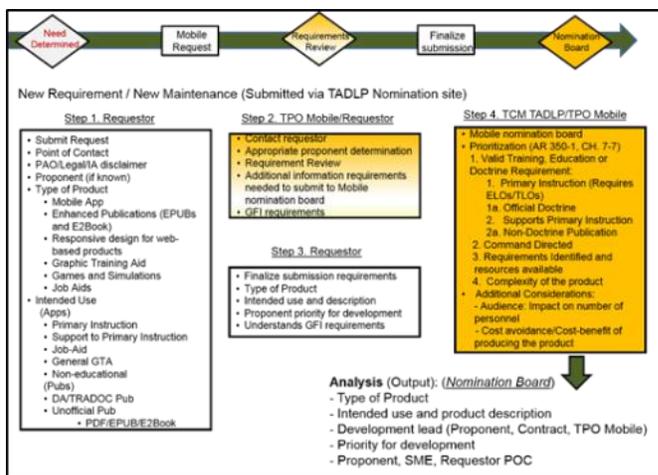
TPO Mobile is also accepting the top three Apps that have already been made by a proponent. That process is:

- Send email to box: [usarmy.jble.CAC.mbx.atsec-tradoc-mobile@mail.mil](mailto:usarmy.jble.CAC.mbx.atsec-tradoc-mobile@mail.mil). Email should contain:
  - Mobile team lead name, number, email (If app team is contracted, government PM information is required.)
  - Mobile team names, numbers, position titles (if contracted, state “contracted” and we will contact PM.)
  - Top two or three mobile application titles and descriptions.

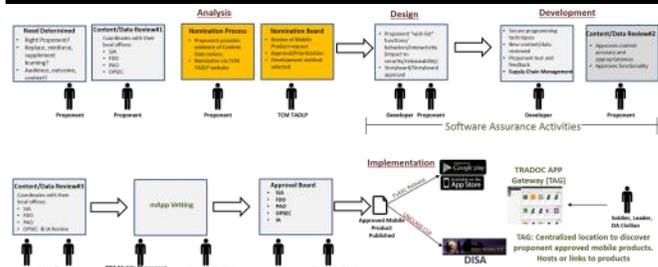
- TPO will send forms and next steps for submission to TRADOC Apps Gateway (TAG)

TPO Mobile will continue to work closely with CoEs and schools to refine and improve processes to make sure that the needs and requirements for the Soldier are met with a quality mobile product that is easily discoverable, accessible, trackable, and available on demand by the Soldier. **KC**

The TRADOC Mobile Nomination Process



The TRADOC Mobile Development Process



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Graphic by ATSC Visual Information Office

## Bringing doctrine to life

*From the TADLP Content Acquisition and Management Office Staff Notes*

The TCM team and TPO Mobile received the vision and call to “bring doctrine to life,” and set out to make it happen. The first effort was to support the Center for the Army Profession and Ethic (CAPE) with the new ADRP-1 published on June 12, 2015. The publication of the enhanced electronic Book (e2Book) presented new challenges for the team, as the project was developed using in-house resources and a contract team for video editing. The final iOS product is hosted on the Central Army Registry and CAPE’s homepage. Additional versions will be available soon.

The teams are excited about new projects and are busy establishing processes for nomination and development of future e2Books. Follow the **DL Star** for future announcements about our process. FMI, call Dr. Peggy Kenyon, 757-878-6935, DSN 826.

## ANNOUNCEMENT

Army DL Courseware Validation SCORM Packaging and Testing Policy for courseware on the ALMS draft release coming in July

*From TADLP Capabilities & Implementation Office Staff Notes*

The Army DL Courseware Validation SCORM Packaging and Testing Policy for courseware on the ALMS has been revised. It will be released in July 2015 for review and comments by Army DL-producing activities and proponents that develop courses for fielding on the Army Learning Management System.

For additional information, please contact the TCM TADLP Implementation Branch at [usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil](mailto:usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil).

### Upcoming Fall 2015 DL STAR Features



**Flying High Above the Best**  
*Seeking innovation and immersion to enhance training realism*

#### Tracking Your Career

*Simplified IDP valuable tool to chart and monitor goals, milestones, and progress*



**Improving Army Writing:** *Assessment tool may help diagnose and analyze Soldiers’ writing ability*



## THE POWER OF ORGANIC LEARNING

*The Joint Perspective on Blended Learning<sup>1</sup>*

By Dr. David T. Fautua and Dr. Sae Schatz

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**T**raining developers have heard the research and know the general advice: “Content is king.” But when surrounded by the latest gadgets at tradeshow or immersed in this season’s next IMAX blockbuster, it can become difficult to ignore the pull of sleek graphics and surround sound. Instructional technologies, however, rarely have the luxury of incorporating the latest technological gimmicks, and military online learning content, in particular, typically falls on the “late majority” side of the innovation curve.

Coincidentally, military online learning is generally ranked as “middle of the road” by personnel taking the courses. (This is according to our own past empirical research. Roughly 200 joint personnel rated their experiences with typical military e-learning courses, which ranked slightly below average on a 5-point scale; see Fautua et al., 2012.) A natural tendency is to believe that leveraging the latest technology innovations might help increase interactivity of these courses and, in turn, student engagement, learning, and positive regard.

More broadly, the nature of joint training is currently being redefined by the Combatant Commands (CCMDs) and other joint force commands (JFC). Large collective exercises are not only viewed as increasingly too expensive but also underwhelming in terms of developing individual and team competencies across the various staff working groups that bear the brunt of the planning requirements. These are the boards, bureaus, centers, cells, and working groups (B2C2WG) that represent integrated staff groups who perform the mission analysis planning and produce the course-of-action options for senior decision-makers. While Joint trainers are well aware that online learning technologies may provide alternative training options (that are less costly yet highly effective), they are uncertain as to how to leverage the right tools in the right way. Thus their requests for assistance (i.e., web-enabled blended learning capabilities) are often received as requests for more “bells and whistles” or worse, as an “unstated” demand signal.

Certainly, increasing the interactivity of online courseware can boost engagement and learning; however,

“increased interactivity” is sometimes just a euphemism for “more technological bells and whistles.” While employing state-of-the-art technology is admirable, we need to find those technological innovations that truly support learning goals and then pair them with the instructional framework needed to reap the most value from our investments.

In this paper, we examine several real-world examples from current military training that use inventive instructional strategies and tactics to enhance engagement and learning. For example, these include blended learning processes, inclusion of formative (in addition to summative) assessments, facilitation of tailored organic e-learning, and the rendering of table-top staff events or functionally centric staff training into web-based small group scenario/part task trainers (i.e., targeting for lethal or non-lethal planning). To achieve these goals, we have implemented instructional tactics such as situational judgment tests, card sorting using multiple-choice radio buttons, and story-based learning, and we are currently working on methods to capture and render the organic e-learning content into small group scenario/part task trainers. Finally, we close this paper by describing our next steps, including the andragogical principles we are exploring in our ongoing work to support training for the Chairman’s six Desired Leadership Attributes in technologically supported training environments.

### Training Demands

Across the DoD, the Services and Joint Staff share several similar learning challenges, including shrinking training budgets, the need to better develop their “human dimension,” and the push to use more distributed/mobile learning technologies. (For examples, refer to the Army’s efforts to advance the Human Dimension [U.S. Army Combined Arms Center, 2014], Marine Corps’ Small Unit Decision Making initiative [SUDM, 2011], and Chairman, Joint Chief of Staff’s (CJCS) six “Desired Leader Attributes” [CJCS, 2013]).

<sup>1</sup>This article is based on a conference paper initially published in *MODSIM World Conference 2015*.



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## “Power of Organic Learning” continued from page 6

Each of the following ideas is a low-cost way to attempt to build “o-learning” (i.e., organic learning, that authentic and tailored content). For the sake of efficiency and management, each of the tailorable solutions builds upon an e-learning foundation, and that e-learning core is developed by the Joint Staff J7 (Joint Training) for consistency. We have partially implemented three of the following ideas and we are currently testing out the last.

### 1. Use creative formative assessments with open-ended solutions

When first conceptualizing the BLTS, part of our goal was to deliver training that helped foster participants’ higher order thinking skills. We needed to develop material that encouraged thinking and interaction with the content, but we had limited resources available to create new interactive content. Instead, we needed to use standard HTML 4.0 features, including text, graphics, radio buttons, checkboxes, and drop-down menus. Pages could also include textboxes and text areas; however, entries into those could not be scored with any sophistication. Given our restrictions, we decided to incorporate formative assessments into each e-learning course to help encourage students’ thinking.

Formative assessments are often called “assessments for learning,” in contrast to summative assessments, which are “assessments of learning.” In other words, formative assessments enhance the effectiveness of a course, while summative assessments generally support grading. Formative assessments can help gauge students’ progress, modify teaching and learning activities, and improve learner achievement (Shute, 2007). These assessments are typically less formal than summative tests, and the actual scores earned on formative assessments need not be officially recorded, since performance on formative tests is used to provide feedback rather than track student outcomes. When used appropriately, inclusion of formative assessments can improve students’ learning outcomes by 20–40 percentile points (Ainsworth, 2006). Many self-direct e-learning courses only measure lower level KSAs and their associated mental processes, such as knowledge acquisition, comprehension, and basic application (Bloom, 1956). For

instance, tests may simply measure and likely only motivate, *recognition* (e.g., select the right vocabulary word from a short list of multiple choice options), *recall* (e.g., given a short definition, determine whether it is true or false), or *basic procedural application* (e.g., correctly number the order of steps associated with a given task). We wanted to encourage participants to think a little more deeply about the content.

Researchers have developed a variety of approaches for better assessing higher order thinking; these include the use of Behaviorally Anchored Rating Scales (BARS), rubrics, concept maps, card sorting tests, situational judgment tests (SJTs), metacognitive prompts, and self/team correction. Unfortunately, such assessments usually require expert human graders, and even if they could be automatically scored by a computer, the JKO Learning Management System did not support such algorithms. Hence, one challenge for the BLTS was to utilize assessments that address higher order thinking while only using components that could be implemented by the online system.

We outlined these criteria for the assessments:

- Encourage students to engage in analysis, synthesis, evaluation, and metacognition
- Items may not always include “right” answers; instead, list better and worse options (shades of gray)
- Distractor items on questions (i.e., the incorrect options) should correlate to known gaps/misconceptions
- If incorrect options are selected, the specific underlying gaps or misconception should be remediated (versus simply restating the correct answer in a different way, which is also useful but not sufficient)

For the early BLTS courseware, we used standard HTML forms to build the formative assessments, such as:

- Concept maps turned into multiple choice tests (radio buttons) or drop-down lists (combo boxes)
- Situational Judgment Tests as multiple choice quizzes or ungraded short answers
- Card sorting using radio buttons in columns adjacent to each item
- Open-ended (i.e., textboxes or text areas) metacognitive prompts that were not graded, but instead used to facilitate formative self-assessment and provided as input to the observer/trainers



**“Power of Organic Learning” continued from page 7**

**How is it o-learning?** Individual members of the training audience have the opportunity to insert their own responses and have discussions with on-site observer/trainers about their answers. The questions are uniform, but the specific details of the responses may vary by functional area and component.

**Did it work?** The four varieties of assessment questions (mentioned above) were implemented in the BLTS courses, and have been completed by several hundred staff members. The HTML-form technology and instructional design of the questions, by themselves, appear successful (given only anecdotal feedback at this time). However, the context surrounding their delivery needs continues to be refined. Personnel responsiveness to the items varies. Some learners treat the questions thoughtfully, while others enter random content in order to move forward. Also, the questions and the responses they elicit could be refined to aid diagnosis and subsequent tailoring of the live training.

**2. Put an instructor in the loop**

The online content delivered through the BLTS augments existing staff exercises. Similar to the “flipped classroom” concept, it allows personnel to complete their general, process-oriented training flexibly, prior to attendance at the exercise. Then, once gathered at the training event, the observer/trainers can focus on remediation or more nuanced instructional topics.

Getting the “blending” right continues to be an ongoing process. For the training audience, they need to know that their performance in the online courses matters. They need to see that someone will review their progress and ungraded formative assessment inputs, and they need to understand how their interactions with the online courseware affect the delivery of the exercise. Without this clearly articulating this from the beginning, it is difficult to encourage their full interaction with the training or formative assessments. For the observer/trainers, they needed to receive meaningful reports from the online system that clearly guided their next steps (e.g., training audience remediation) and that did not require significant time to review.

Creating a compelling message for the training audience and delivering timely and actionable reports to the observer/trainers continues to present difficulties. These challenges are being gradually overcome through incremental improvements to messaging and to refinements to the report format and presentation to the observer/trainers.

**How is it o-learning?** The flipped classroom approach allows the common doctrinal content to be taught by the automated system, thus freeing up—and encouraging—the local trainers to deliver more tailored, mission-specific additions. Further, by arming those training personnel with performance outcomes and demographic data taken from the online system, they can better align their offerings to the unique context and mission of each training audience.

**Did it work?** We eventually developed an effective blended learning process; however, it took 3 years to establish all of the moving parts and we continue to refine it. Blended learning at this scale requires the support and coordination of many diverse stakeholders. Ultimately, though, the system has measurably enhanced training outcomes (see Fautua et al., 2014) and, anecdotally, achieved efficiency savings as well.

**3. Package multimedia assets for later use (including live training)**

The BLTS courseware (like many online courses) often includes multimedia videos, either fictionalized stories inspired by real-life events or historic accounts. The movies include highly descriptive, probing narratives and/or relevant real-world stories which describe the challenges and context of topics like cyber operations, forming a Joint Task Force, and planning for lethal and non-lethal targeting. To remain impactful and compelling, e-learning technicians attempt to keep the videos to the movie industry standard of 2.5 minutes.

In addition to using these assets online, in-residence academics and/or tutorials can be enhanced by including these videos. In a plenary setting, instructors can use the videos to stimulate interest, quickly place complex topics into context, and generate probing questions that enable



**“Power of Organic Learning” continued from page 8**

trainers to kindle a constructivist learning approach and avoid the “sage on the stage” legacy approach.

**How is it o-learning?** This idea is straightforward: Create some of the online multimedia objects in a way that enables their reuse. For instance, make sure they can stand alone (like “trailers”) and make them accessible to observer/trainers and other local training personnel at Combatant Commands and their components. Give people tasked with training at the local level the tools they need to quickly and easily deliver high-quality training that aligns with the general e-learning content and large-scale exercises.

**Did it work?** Anecdotally, we have received positive feedback from Commandant Commander trainers who appreciate the access to training content that they can reuse for sustainment and on-boarding training in addition to the major training events with direct JSJ7 involvement. However, it is too soon to determine if they effectively support the desired balance of standardization and local tailoring.

**4. Make it easy to repackage or insert local content into standardized e-Learning**

Utilizing existing e-Learning tools in new and innovative ways can help create effective o-Learning environments. For instance, instructional system designers can essentialize an organization’s planning processes for key functional areas into online course content, complete with embedded metrics (e.g., processes for conducting foreign humanitarian assistance/ disaster relief or targeting processes to produce lethal and non-lethal courses of action). The same can also be done to render other internal documents like operational concept plans (CONPLANS) or concepts of operations (CONOPS). The point here is to enhance the training authenticity by using the organization’s own products as part of the training materials.

Trainers can also leverage e-Learning tools to enable an organic learning environment by rendering problem-based scenarios into small group/part task trainers that reflects an organization’s culture, norms and common understanding of the challenges. In this way, authentic challenges are not learned through abstract scenarios but rather from probable settings and where the learning experience is connected, where knowledge is constructed by individual or small staff groups from existing knowledge within the organization’s

network (Frissen, 2009).

The case of Southern Command provides an instructive example on how a suite of instructional eLearning tools are being leveraged to enable an “o-Learning” training environment. Planners from the J5 (future planning cell) and J3 (future operations cell) wanted an organic training tool to rehearse simultaneous but different time-horizon planning processes between an integrated cell of future planners (conditions for 72 hours ahead) and an integrated cell of future operations (little-to-no-notice warning), to practice jumping into a crisis action planning process from a dead start (see Figure 1).

One of those techniques is to help trainers and teachers to capture peak learning experiences from the organization’s own in-residence training (for individuals and small groups) and then render those experiences into tailored instructional e-learning tools that organizations can reuse and enhance over time.

**How is it o-learning?** This idea promises to yield the largest opportunities for o-learning. Enabling local trainers to not only capture their functionally based staff training that are often no more than PowerPoint-driven micro exercises but also to render the entire environment onto a web-based blended learning training package (BLTP) that the staffs can reuse as often as desired to sustain their training or to bring individual augmentees quickly up to speed. These BLTPs could include a complete rendering of the training scenario into a team-based part task trainer that would already have embedded organizational planning processes, CONOPS documents, and tailored course content, all with embedded metrics. The Future Plans and Future Ops described above can rehearse as often as desired their requirements to transition a long lead plan to the current operations cell. In the same way, the various integrated working groups associated with a Joint Fires planning mission could rehearse complicated targeting planning that for simultaneous lethal and non-lethal considerations. Building these BLTPs from the bottom up, inserting an organization’s own products into standardized training materials means that those generic training scenarios would become instantly more relevant to the local training audiences. Even adding just one or two command-specific documents changes the overall flavor of a prepackaged scenario to one that is organizationally “mission– focused.” Further, having the flexibility to “mix and match” off-the-shelf training offerings to create a unique, composed solution (like the SOUTHCOM example), provides necessary flexibility to the Combatant Commands and their components.



## “Power of Organic Learning” continued from page 9

**Did it work?** We are currently testing out these ideas, but initial progress has been positive.

### CONCLUSION

This paper highlighted a handful of in-progress ideas. These concepts build upon principles of instructional design in an attempt to increase learner engagement and the authenticity of the content. Less formally, we want to use low (or no) cost methods to make the standardized training meaningful to each set of participants. Essentially, organic training incorporates the best from blended learning (active learning) methods where learning is pulled by learners, and not pushed from systems outside of the organization’s culture. **DF/SS**

### ACKNOWLEDGEMENTS

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressed or implied, of the U.S. Joint Staff or the U.S. Government.

### REFERENCES

Ainsworth, L., & Viegut, D. (Eds.). (2006). *Common formative assessments: How to connect standards-based instruction and assessment*. Corwin Press.

Bloom, B.S. (Ed.). (1956) *Taxonomy of educational objectives: The classification of educational goals*. Handbook I: Cognitive domain. New York: Longman.

Branson, R. K., Rayner, G. T., Cox, J. L., Furman, J. P., King, F. J., & Hannum, W. H. (1975). *Interservice procedures for instructional systems development* (NTIS No. ADA 019 486 through ADA 019 490). Ft. Monroe, VA: U.S. Army Training and Doctrine Command.

Chairman of the Joint Chiefs of Staff (2013, Oct 10). *2014-2017 Chairman’s Joint Training Guidance* (CJCS Notice 3500.01). Washington, DC: Joint Chiefs of Staff.

Fautua, D. T., Schatz, S., Reitz, E., & Bockelman, P. (2014). Institutionalizing blended learning into joint training: A case study and 10 recommendations. In *Proceedings of the Interservice/Industry Training, Simulation and Education Conference (IITSEC)*, Orlando, FL.

Fautua, D., Schatz, S., Taylor, A., Reitz, E., Bartlett, K., & Killilea, J. (2012). *Continuum of eLearning: 2012 Project Summary Report* (Technical Report Orlando, FL: DSCI MESH Solutions.

IGN (n.d.). Best Graphics - Technology. Retrieved from <http://www.ign.com/lists/best-of-games-achievement/technology/call-of-duty-advanced-warfare>

Kain, E. (2015, Jan. 19). The Top Ten Best-Selling Video Games of 2014. *Forbes.com*. Retrieved: <http://www.forbes.com/sites/erikkain/2015/01/19/the-top-ten-best-selling-video-games-of-2014/> Norm Frissen, Rethinking e-Learning Research: Foundations, Methods and Practices (Peter Lang Publishing, 2009: NY), pp. 1-4.

Shute, V. J. (2007). Focus on Formative Feedback (RR-07-11).

Small Unit Decision Making (2011). US Marine Corps Small Unit Decision Making January 2011 workshop report. Quantico, VA: USMC Training and Education Command.

Tee Hunter (2014, Sept.). Top 10 Best Selling PC Games. TeeHunter.com. Retrieved <http://teehunter.com/2014/09/top-10-best-selling-pc-games/>

U.S. Army Combined Arms Center (2014). The Human Dimension White Paper: A Framework for Optimizing Human Performance. Retrieved February 4, 2015 from <http://usacac.army.mil/sites/default/files/documents/cact/HumanDimensionWhitePaper.pdf>

U.S. Joint Staff (2012, August 15). *Joint Training Manual for the Armed Forces of the United States* (CJCSM 3500.03D). Washington, DC: Joint Chiefs of Staff.

U.S. Joint Staff (2012, June 8). *The Joint Training System: A guide for senior leaders* (CJCS Guide 3501). Washington, DC: Joint Chiefs of Staff.

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**Sae Schatz, Ph.D.**, is an applied human–systems researcher, professional facilitator, and cognitive scientist. Her work focuses on human–systems integration (HSI), with an emphasis on human cognition and learning, instructional technologies, adaptive systems, human performance assessment, and modeling and simulation (M&S). Frequently, her work seeks to enhance individual’s higher-order cognitive skills (i.e., the mental, emotional, and relational skills associated with “cognitive readiness”). In addition to her research, Dr. Schatz mentors graduate students, teaches in the M&S graduate program at the University of Central Florida (UCF), and facilitates professional seminars for business and government clients.

# The

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Distributed Learning Supporting Training Awareness and Readiness

## MEDIA SELECTION

Its role in designing instruction for 21<sup>st</sup> Century learners and the Army Learning Model

By **Bennita Freeman**

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The Army Learning Model (ALM) establishes a framework that will transform the Army's individual learning methods and processes in support of the Army Learning Concept (ALC) principle of developing adaptable Soldiers and Leaders. As you know, all Army Training and Doctrine Command (TRADOC) Centers of Excellence and Schools are incrementally implementing ALM using advancements in learning sciences to:

- Change instruction strategies that create more facilitated, collaborative learning events to engage learners
- Employ digital learning content
- Use relevant operational scenarios
- Capitalize on blended learning approaches

Not only the Army, but other military services, government agencies, and commercial enterprises are seeking to continually improve the ways they train personnel so that training is more effectively delivered where, how, and when needed.



The Army Learning Model proposes a learner-centric environment where classroom learning will shift from instructor-centered, lecture-based methods to a learner-centered, experiential methodology. Engaging the learners in collaborative practical and problem solving exercises that are relevant to their work environment provides an opportunity to develop critical 21<sup>st</sup> Century competencies.

## ARMY LEARNING MODEL IMPLEMENTATION: THE ROLE OF APPROPRIATE MEDIA SELECTION

Consider the following quote from TP 525-8-2 (ALM 2015) Chap. 2, 2-3, section D, Para. 1, and the emphasis it places on the role of media selection when designing instruction to align with ALM principles: *"Years of research show there is still no single learning strategy that provides the most effective solution to every learning problem. Decisions regarding instructional strategies and media selection must be made by experts based on the audience, the level of experience the learner brings, and the content of the learning."*

Media selection has always played an important role in the design of instruction. However, with the mandate to implement ALM in all of our current and future instruction, the art of selecting the most appropriate media for instruction has become even more key as target audiences that we are addressing (Soldiers, Civilians, Contractors) are becoming more sophisticated in the use of the most current types of media and instructional aids as a normal part of their personal and professional experiences. Consequently, it is vital that instructional designers and all others involved in implementing the use of media in instruction have a sound, informed understanding of the role of media selection and factors that must be considered prior to the selection of media to support instructional objectives. A brief discussion of the most important components of media selection, learning analysis, media analysis, and target population follows in the information below.

## LEARNING ANALYSIS CONSIDERATIONS

After media selection for a specific training strategy is approved, a learning analysis should be conducted to ensure the media used for training assists in achieving stated training objectives. When training Army leaders (or leaders in any discipline), it is critical to carefully analyze learning to determine the learning domain and skill level required of students. In addition, since there is increased emphasis on shifting

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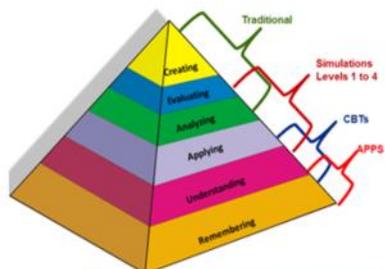
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from instructor-centered, lecture-based methods to a learner-centered, experiential methodology, it is particularly important to understand the requirements when higher level skill development is required (Analyzing, Evaluation and/or Creating). The illustration of Levels of Learning in Bloom’s Taxonomy to the left depicts a



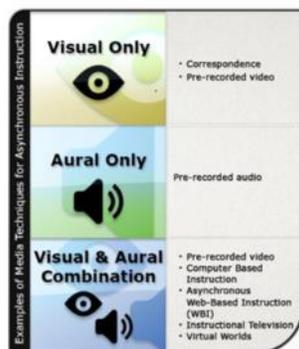
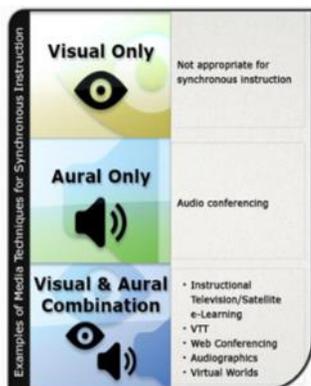
simple comparison of the types of media that may be appropriately applied at each level of learning.

### CHOOSE A METHODOLOGY FOR MEDIA SELECTION

The three principal modes or general categories of media to facilitate learning are:

- visual
- aural
- and a combination as recognized by the US Distance Learning Association (USDLA)

The two graphic illustrations below show the different types of media for all three modes (visual, aural, combination) as they pertain to asynchronous or synchronous instruction.



A traditional media analysis typically uses a formal process to determine which medium or combination of media is better to use for a particular course. The media selection factors used in most media analysis include:

- Learning outcomes of each task
- Events of instruction
- Learner characteristics
- Instructional setting
- Time
- Physical attributes of media
- Practical considerations

A brief explanation of each factor that analysts may use to conduct the media analysis is provided below:

- Learning outcomes for each task (psychomotor, attitudinal, intellectual, cognitive and/or verbal learning)
- Events of instruction (Informing learner about the objective(s), presenting the material, providing learning guidance, providing practice/performance opportunities, providing feedback, assessing performance, enhancing training retention and transfer of skills to the job)
- Learner characteristics (National Guard, Reserve and Active Duty military, DOD civilians, and authorized contractors)
- Instructional setting (training location, group or individual, size of group)
- Time (time spent on task, time spent on software, maintenance time)
- Physical attributes of media (audio, visual, motion, simulation, print)
- Practical considerations (development cost and time, maintenance of instruction, hardware/software availability)

In addition, analysts consider both of the following in the analysis and when making recommendations:

- Methods of Instruction (MOIs) (lecture, role playing, demonstration, etc.)
- Technology available

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If at all possible, training developers and instructors should have interaction with experienced instructional designers while learning the process for media analysis and selection. Regardless of the analysis method you decide to use, here are some key points to keep in mind:

- Be objective in your analysis. Having preconceived notions about what is “best” may lead to inaccurate decisions
- Analyze each task or learning objective separately, but then look at the course as a whole. Never lose sight of the big picture
- Determining the learning outcome is the single most critical part of the analysis. It does little good to invest in a technologically advanced solution if it doesn’t help produce the desired learning outcome. Keep the 21<sup>st</sup> century Soldier competencies in mind.
- Sometimes you may need to apply a weight to some of the factors to address criteria you have been given by the leaders in your organization prior to the analysis.

### TARGET POPULATION CHARACTERISTICS AND MEDIA SELECTION

Many instructional designers believe that target population characteristics should be considered when selecting the most appropriate instructional media for lesson, module, or course of instruction. The target population characteristics most often considered when selecting instructional media are:

- Reading level
- Age
- Education level
- Previous training
- Expertise using computers
- Skill level

More experienced and/or more educated learners are often believed to be more independent learners who can self-instruct, which is a major factor in the decision on what types of media to select for this group of learners. The educational researcher, Edgar Dale, developed a “Cone of Experience,” which says that learners retain what they do.

This is known today as experiential learning.

### PRACTICALITY AS A FINAL CONSIDERATION

When all is said and done, practicality should be considered after all other media selection factors have been reviewed. Practical considerations include:

- *Hardware and software availability*
- *Courseware maintenance time and cost*
- *Course development cost*
- *Availability of facilities*
- *Security classification level of courseware (unclassified (FOUO), classified, secret, top secret, etc.)*

Technology can have a big impact on media selection decisions and continue to affect decisions made during course design/development. For instance, software used to create a course must be contained on the Army Gold Master List of approved software before it can be used on any computer within the Army’s computer network.

It is also important to note that you may not have some of the data necessary to make decisions based on the practical considerations listed above. Generally speaking, you may not have access to actual cost data for course development and maintenance since these are most likely factors that are controlled at the enterprise level as the Army moves more in the direction of enterprise solutions to address needs of individual organizations. However, it is still a good idea to search commercial sources for estimated course development costs based on the instructional media selected. As a side note, it typically takes longer and costs more to develop interactive multimedia instruction (IMI) than classroom instruction, but long-term delivery costs are less expensive than classroom instruction in many instances.

Finally, the number and types of media available for education and training increases virtually every year due to technological advances, decreasing costs, increased ease of use of technologies, and the creation of new uses for existing media.



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With greater choices available for learning media, the decision of which media to use is more complex than it has been in the past. With the many technological advances we have had in just the past few years, there may be a temptation to adopt the newest or most sophisticated level of technology available or affordable, but as discussed earlier, that is not always the wisest choice when compared to the expected learning outcomes for a course.

### OPPORTUNITY TO EXPAND YOUR MEDIA SELECTION KNOWLEDGE BASE

Our office (Cyber CoE Distributed Education Section, Learning Innovations Branch, Directorate of Training) is in the final stages of fielding a Media Selection Course that we developed via the Army Distributed Learning Program (TADLP) CAPDL contract. We just completed the Group Trials Validation with 22 participants from our local Staff & Faculty participating in the event. The course is approximately 10.5 hours in length and can be accessed by anyone interested in completing the instruction from our LandWarNet eUniversity (LWN eU)/Cyber Education Enterprise (CEE) web portal. The course covers a more in-depth look at the media selection process and how it relates to ALM. The instruction is engaging and is presented in a realistic, scenario-driven format. A certificate of completion is also available for those who complete the course and pass the post-test with a score of at least 80%. **BF**

**About the Author:** Ms. Bennita Freeman is the Chief, Distributed Education Section (DES), Learning Innovations Branch (LIB), US Army Cyber Center of Excellence. Ms. Freeman has been DES Chief for 9 years. She serves as the Cyber CoE’s CAC/ATSC/TRADOC DL Liaison and is responsible for interpreting TADLP/ATSC DL policies for Cyber CoE personnel. The DES has the overall responsibility for the management, development, and quality assurance for all Cyber CoE Interactive Multimedia Instruction (IMI) products and LandWarNet eU (LWN eU) operations.

### Interested in taking the Media Selection Course or offering the course to your local training community?

Contact Bennita Freeman at 706-791-6918, or via email, [bennita.l.freeman.civ@mail.mil](mailto:bennita.l.freeman.civ@mail.mil); or AJ Mason, 706-791-0744, or via email, [andrew.j.mason4.civ@mail.mil](mailto:andrew.j.mason4.civ@mail.mil).

This would be a great way to inform your local staff and faculty about the media selection process prior to their working with you on the creation of new DL or IMI products or the update of existing products. Final version of the courseware will be fielded summer 2015.

## DL STAR Article Submission Steps

**The Army Distributed Learning Program’s community of practice benefits immensely from the collaboration and exchange of information and topics that are relative to DL and the greater training and education community. If you have an idea for an article, or would like to write and submit an article to share, please contact us at:**

**[usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil](mailto:usarmy.jble.tradoc.mbx.atsc-tcm-tadlp@mail.mil)**

**Be mindful of these tips when submitting articles:**

- Use “active” voice (p. 6) AR 25-50. Be brief; limit your article to 800 words or less.
- Proofread submissions. Ensure all pertinent facts, names, and titles are accurate. Include appropriate copyright permissions.
- Include clear and legible artwork, graphics, drawings, and photographs when possible. Provide an explanation of the associated artwork, as well as its origination and photographer credit when appropriate.
- Provide a brief biography of author. Pictures are acceptable.
- Ensure to include correct point of contact information with submission to facilitate follow-up and fact confirmation.

**SUBMISSION DEADLINE FOR FALL 2015: 30 SEP 15**