2020 Annual Report

Defense Advanced Distributed Learning Advisory Committee

DADLAC

**Prepared by the ADL Initiative
March 2021**

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> **The DADLAC enables connections among learning efforts and initiatives across DoD, elevating and enriching the efforts and results for everyone. The DADLAC is the "electricity" that is powering transformational change for DoD!**
>
> **Amy Rogers**
> Chief Learning Officer,
> Defense Civilian Personnel Advisory Service

Message from the DADLAC Chair

Last year was filled with chaos, but from that crisis came opportunities—opportunities to reinvent the reputation and purpose of distributed learning, and to reimagine its uses around the world. We faced a sink-or-swim moment, and I'm proud to say that this community excelled. Distributed learning emerged as a silver lining to the year's hardships. We met last year's unprecedented demands, and the value of our DADLAC community was demonstrated time and again as we collectively—and successfully—accelerated and expanded defense distributed learning by orders of magnitude. This report highlights our community's activities, along with important policies and plans impacting our respective programs.

This year we…

Quickly pivoted in response to the pandemic. Individual programs scaled rapidly to address the increased need for distributed learning, and as a community, we adapted. For example, we changed our face-to-face meetings into online forums and remade the annual Federal e-Learning Science and Technology (iFEST) conference into a virtual event.

Worked together on digital learning R&D projects organized by the ADL Initiative, including test-driving new technologies in the Total Learning Architecture sandbox and participating in the designated stakeholder program. *Check out the Success Stories section of the report for more on this!*

Made progress toward the future learning ecosystem vision by maturing digital learning data standards in coordination with industry working groups, testing emerging digital learning technologies, and implementing new capabilities within our own organizations. DADLAC member organizations are making great strides, particularly in new technologies, interoperability, personalized learning, data analytics, and cybersecurity compliance. *See the Member Updates section on page 7.*

Expanded our reach across the DoD enterprise by including new member organizations, streamlining our coordination methods, and building connections to other working groups. Today, over 250 individuals participate in the DADLAC, representing all DoD Services, other Defense Components such as the Defense Civilian Personnel Advisory Service and Defense Acquisition University, as well as other Federal organizations, including the Office of Personnel Management.

It's become the 2020 cliché to say that this is the new normal, and although that expression may have grown stale, its veracity is untarnished. We've entered a new era for distributed learning, and I predict that our many accomplishments from today will soon pale in comparison to the advancements we make in the upcoming years. I'm hopeful for the future, and I know that this community is poised to seize the opportunity.

Sae Schatz, Ph.D.
Director, Advanced Distributed Learning Initiative
U.S. Department of Defense

DADLAC History

For over twenty years, distributed learning leaders across DoD have collaborated, learning from each other's efforts and continuously improving our collective use of distributed learning. Originally established in 1997, this community was called the Total Force Advanced Distributed Learning Action Team. In 2017, the policy governing this group, **Defense Instruction 1322.26**, was updated, and we were renamed the Defense Advanced Distributed Learning Advisory Committee or DADLAC (pronounced *dad-lak*). This Defense Instruction also includes the DADLAC charter, which outlines the assignment of roles and responsibilities. It directs the DADLAC to advise on distributed learning policy, exchange information, and collaborate on emerging concepts relevant to the DoD community.

The DADLAC enables critical information and resource sharing among DoD Components. It also helps maximize return on investments and identify ways to improve distributed learning systems and their reuse. The DADLAC also helps identify common areas of need and to recommend priorities for R&D. In addition, the DADLAC provides updates to the **DoDI 1322.26 Fungible References**, which defines the technical requirements and best practices for distributed learning systems.

DADLAC Mission

The DADLAC provides advice to the DoD distributed learning community with respect to the policies and procedures included in Defense Instruction 1322.26, and it helps the DoD distributed learning community adapt to evolving learning science and technical changes in distributed learning environments.

Member Organizations

The **ADL Initiative**, part of the Office of the Secretary of Defense, serves as the DADLAC Chair and advises DoD leadership on current and proposed distributed learning activities. DADLAC members include designated military and civilian distributed learning leaders, as well as guests from across the greater DoD and U.S. Government distributed learning communities. The next page shows a cross section of organizations that participate with the DADLAC.

DADLAC Participating Organizations

DADLAC Chair
Advanced Distributed Learning Initiative

Army

The Army Distributed Learning Program

Army Training and Doctrine Command

Army Training Information System

Army University

Army War College

Army Command and General Staff College

Army Combined Arms Support Command

Army Training Support Center

DEVCOM Army Research Laboratory

Navy

Naval Education and Training Command

Naval Air Warfare Center (Training Systems Division)

Naval Information Warfare Center (Pacific)

Naval Medical Forces Support Command

Naval War College

Naval Postgraduate School

Naval Medical Research Center

Naval Sea System Command

Office of the Naval Inspector General

Office of Naval Research

Marine Corps

Marine Corps Training and Education Command

College of Distance Education and Training

TECOM Training Command

Marine Corps Combat Development Command

Marine Corps University

Air Force

Air Education and Training Command

Air University

Air Force Agency for Modeling and Simulation

Air Force Research Laboratory

U.S. Space Force

DoD 4th Estate

Defense Acquisition University

Defense Civilian Personnel Advisory Service

Defense Counterintelligence and Security Agency

Defense Health Agency

Defense Intelligence Agency

Defense Information Systems Agency

Defense Logistics Agency

Defense Language and National Security Education Office

Joint Staff J7, Joint Knowledge Online

Missile Defense Agency

National Defense University

National Geospatial-Intelligence Agency

National Guard Bureau

National Security Agency

National Reconnaissance Office

Office of People Analytics

Office of the Chief Information Officer

Uniformed Services University of the Health Sciences

Government Agencies

Department of Education

Department of Housing and Urban Development

Department of Labor

Federal Bureau of Investigation

Federal Emergency Management Agency

Department of Homeland Security

National Park Service

Office of Personnel Management

Note: Illustration represents a cross section of the DoD and U.S. Government organizations participating in the DADLAC activities supported by the ADL Initiative.

This is not exclusive—all government organizations interested in participating or receiving updates on DADLAC efforts are encouraged to join our email list (see page 13).

Year in Review

Virtual DADLAC Meeting Highlights

DADLAC meetings give members the opportunity to reconnect, strengthen relationships, and learn first-hand about each other's progress and pain points. The formal DADLAC meetings (typically held in April and August) feature member updates, policy discussions, and product demonstrations. Although COVID-19 prevented us from connecting in-person, last year's three virtual meetings were productive.

ADL Initiative 2020 R&D Portfolio

The 8 April 2020 DADLAC meeting focused on the ADL Initiative's FY20 R&D portfolio, including discussions on the **Total Learning Architecture (TLA)** and **Learning Technology Warehouse**.
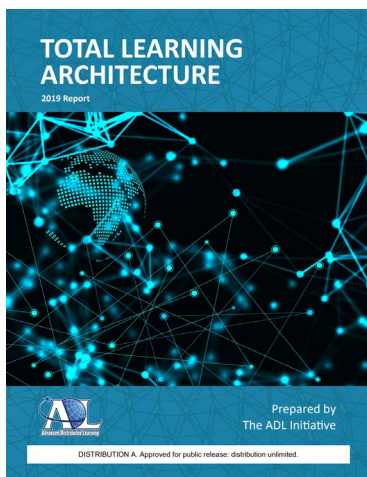
Total Learning Architecture, 2019 Report

First, the ADL Initiative shared the (then) newly released **2019 TLA Report** that defines technology and data specifications for interoperable, data-centric learning systems (i.e., a "learning ecosystem"). The TLA project started in 2016 with the strategic vision of establishing an integrated system of systems across the education and training domain. The TLA will enable data to be used, shared, and moved efficiently across the organization—creating optimization through personalized learning, improved analytics, and efficiencies gained through data-driven management.

The 2019 TLA Report includes a four-pillar data strategy that encompasses: (1) learning activities (output data), (2) learning experiences (such as courses), (3) learner profiles, and (4) competencies. In addition to defining the data strategy, the report's appendices detail the TLA's 2019 functional requirements, recommended draft standards, an initial architecture that conforms to the DoD Architectural Framework (DoDAF), and a software system design document built around the 2019 TLA Reference Implementation (also known as the TLA Sandbox).

The ADL Initiative team also shared progress on the **TLA Sandbox**, which resides on commercial cloud servers, managed by the Office of Personnel Management's (OPM) USALearning program. The TLA Sandbox is a development and testing environment, and the software within it adheres to the draft TLA specifications. That means the Sandbox can be used by DoD organizations to explore the TLA specification or test products for compliance to them. Lastly, the ADL Initiative team demonstrated its DevSecOps end-point portal, dubbed the **Learning Technology Warehouse**. DADLAC members can access approved software through this app store–like portal, after the applications have been developed and tested through the corresponding DevSecOps pipeline. Although still under development, future software packages will be made available in the portal for rapid deployment into the DoD enterprise learning enclave or into stakeholders' own environments. This will help reduce duplication of R&D efforts by providing a clearinghouse where solutions are verified, adherent to interoperability specifications, and nearly "ready to use."

DADLAC Member Updates

The 7 May and 9 September 2020 meetings focused on updates from DADLAC member organizations.


Helen Remily
Army Distributed Learning Program Director

The Army Distributed Learning Program – *Helen Remily*

The Army Distributed Learning Program (TADLP) aims to improve Army readiness by providing rigorous, relevant, and tailored distributed education and training to Soldiers, leaders, and Army civilians. There is a focus on providing learning content at the point of need, with a learner-centric, career-long continuum of learning that is persistently accessible. TADLP has developed innovative and engaging courseware products using the latest instructional technologies. Immersive products being developed include 3D models delivered in virtual environments, virtual and augmented reality, Experience API (xAPI) with instructional dashboards, level 3 development of foreign language courses, stealth assessments, and gamification—all while migrating away from existing Flash® courseware. Progress is also being made on distributed learning projects that include a blended learning pilot, a distributed learning course catalog, a distributed enterprise asset repository, mobile publishing, and apps using xAPI and augmented reality. The learning apps effort includes an early concept demonstration in a development environment (i.e., without the levels of cybersecurity that other networks and apps will need). TADLP offers over 400 mobile apps that have been fielded, and over 700 stand-alone online courses in the Army Learning Management System (ALMS). When including the Lifelong Learning Centers (LLCs), the majority of which are teaching in Blended Learning / Distributed Learning (BL/DL) Modality, the total offerings exceed 3300 courses. Looking forward, TADLP continues to enhance the Army distributed learning systems in conjunction with the current DoD-wide modernization efforts.

Right: The Army is prototyping several new DL/VR projects as part of their transformation. **Visit Vimeo** *to view one of their demos: PWD 92W 3K ROWPU Virtual Training & 92F Virtual Reality Demonstration*
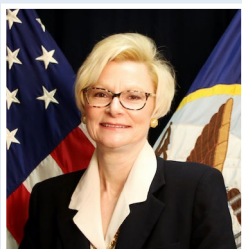
Michele Harrison
Strategic Planning, Metrics Management, and Research & Development Branch Head

Naval Education and Training Command – *Michele Harrison*

The Navy is undertaking a broad modernization initiative aligned with the **Ready Relevant Learning** program, which is one of three pillars of **Sailor 2025**. Ready Relevant Learning focuses on aligning Navy learning into a continuum and leveraging learning technology to support learning throughout the hire to retire cycle of individual Sailors. The goal is to deliver training faster and at the right time to the Sailors who need it. To support this, Naval Education and Training Command (NETC) is developing MyNavy Learning (MNL). MNL is a total learning architecture (TLA) that recommends and delivers point-of-need education, training and professional development resources that are personalized to the Sailor using artificial intelligence and the Sailor's individual learner profile. MNL is designed from the ground up to integrate holistically with new and upcoming Navy personnel management systems to provide a single entry point for users that is intuitive and easy to navigate. In addition, MNL provides a federated system for updating, storing, and displaying each Sailor's individual training record and qualifications presented in an innovative, user-focused format to keep the Sailor abreast of advancement requirements and upcoming training deadlines. This tool will help Sailors manage not only their training, but their progression throughout their entire military careers.

Defense Acquisition University – *Shawn Miller*

In 2020, the Defense Acquisition University (DAU) provided over 10 million hours of learning, graduated over 216,000 students, and awarded 647,000 students with continuous learning completion certificates. Recently, DAU has focused on modernizing its capabilities including research into xAPI Learning Record Store design and use cases, xAPI applications for personalization and data analytics pilot projects, and AI and adaptive learning capabilities. DAU is exploring how to best provide interoperability to connect learning systems and access data to personalize its offerings as much as possible to meet customers at their point of need. This will enable DAU to inform immediate learning path decisions for individuals and provide recommendations that improve the learning experience, for example, aggregating analytics to curate and anticipate what students need. DAU is also working with the ADL Initiative's TLA Sandbox to integrate and test these technologies.

Shawn Miller
Technology Innovation Transformation Program Manager

> **The value of DADLAC participation is being a part of a forward leaning community of experts and problem-solvers that knowledge-share and team on complex tasks. We collaborate to solve pieces of the puzzle for big picture efforts like greater personalization for learners, xAPI Profiles development, Total Learning Architecture, and Enterprise Digital Learning Modernization (EDLM).**
>
> **Shawn Miller**
> Defense Acquisition University

Joint Staff J7, Joint Knowledge Online – *Howard Thorp*

The Joint Staff J7 Directorate is responsible for joint warfighter development, including education, training, and exercises. Joint Knowledge Online (JKO) is an operational arm of the Joint Staff J7. Its mission is to provide 24/7 global access to classified and unclassified distributed training platforms and online courses. The JKO team includes technology and instructional systems design experts who develop, manage, and advance web-based training for the Combatant Commands, Services, Joint Staff, and other stakeholders. The JKO environment includes a learning management system for delivering, tracking, and reporting on online courses; the Small Group Scenario Trainer for distributed, collaborative staff training; and the Virtual Classroom for online, instructor-led distributed learning. During the past summer, JKO launched new software updates to enhance its platform with a stronger cybersecurity posture, a modernized user interface, an updated responsive web design, and an easier search feature. JKO is working on several projects including an adaptive learning methodology pilot and partnering with NORTHCOM on the Vigilant Shield exercise to stand up a Five Eyes capability network on JKO.

Howard Thorp
Chief, Joint Knowledge Online Division

Air Education and Training Command – *Floyd McKinney*

Air Education and Training Command (AETC) serves more than 29,000 Active Duty members, 6000 Air National Guard and Air Force Reserve personnel, and 14,000 civilians. A transformative effort to migrate legacy Air Force learning systems and content into a common IT environment formally named "myLearning" is currently in progress under a project called Joint Education and Training System (JETS). The new myLearning service will operate, manage, and deliver Air Force learning capabilities to all Airmen—anytime, anywhere. AETC has established a new division to implement and manage this learning services operating environment, and it aims to make the initial service-wide capability available in Spring 2021.

Floyd McKinney
Chief, Learning Services Operations, AETC

Marine Corps Training and Education Command – *Larry Smith*

Training and Education Command (TECOM) leads the Marine Corps continuum of learning, from individual entry-level training, professional military education, and continuous professional development, through unit, collective, and service-level training. Currently, TECOM is working on several efforts to improve its learning architecture. One effort is an evaluation of xAPI Learning Record Stores, with the goal of identifying the education and training data needed to get a better snapshot of a Marine's overall training. TECOM's distance education program has shifted the hosting of its Moodle LMS to an internally-acquired commercial cloud environment. Transitioning to this environment will help achieve cost savings, in part because it allows other software and learning ecosystem subsystems used by TECOM to reside in the same environment. Finally, TECOM is furthering its use of **MarineNet Video Services**—the Marine Corps version of a moderated YouTube. In 2020, more than 1,500 videos and 170 different channels were made available by the video service. In the future, MarineNet will also provide podcasts and other media features for displaying, searching, and curating content.
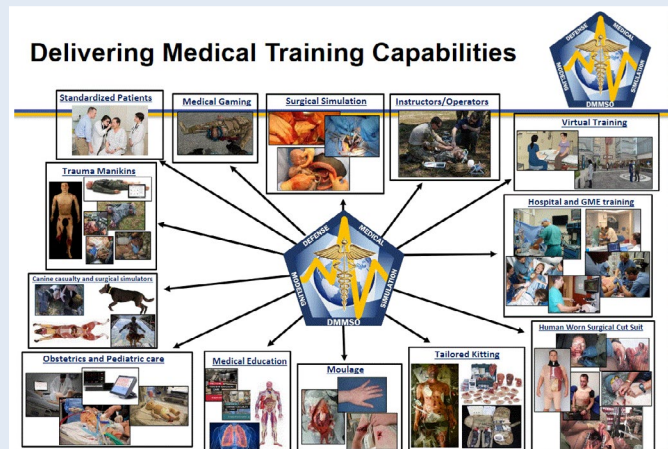
Larry Smith
Marine Corps University Director of Ed Tech/College of Distance Education and Training Technical Director

Defense Health Agency – *Ruben Garza*
Defense Medical Modeling and Simulation Office

The Defense Medical Modeling and Simulation Office (DMMSO) was established by the Defense Health Agency (DHA) Director in 2016. This office serves as the lead organization for the centralized management of shared service medical modeling and simulation (MM&S) capabilities and solutions to support medical education and training. DMMSO's joint office, located in San Antonio, is a collaboration hub for Army, Navy, and Air Force medical simulation program offices. DMMSO promotes the use of MM&S across the DoD, and it helps to identify the appropriate simulation tools to fit gaps and meet the requirements of customers—with the goal of improving medical readiness, survivability, quality of care, patient safety, and efficiency. In 2020, DMMSO spearheaded a year-long effort to integrate interrelated DoD simulation organizations into a more structured arrangement, to reduce the isolation of medical simulation organizations and improve interaction across the force. DMMSO is also partnering with the DADLAC community to ensure a smooth continuum between simulation-based training and other digital learning modalities.

Ruben Garza
Director, DMMSO

Defense Health Agency – *Lolita O'Donnell*
Continuing Education Program Office

The DHA, J-7, Continuing Education Program Office (CEPO) assesses, reviews, and awards Continuing Education (CE)/Continuing Medical Education (CME) credits within the CE Management System (CMS). Prior to 2017, DHA offered CE/CME for physicians and nurses. Since joining DHA J-7, CEPO received approval as an accredited provider for more than 16 other accreditations to include pharmacists and pharmacy technicians, physician assistants, optometrists, social workers, and psychologists. In 2020, CEPO expanded its certification offerings to support dental practitioners, dietitians and dietetic technicians, and speech language pathologists and audiologists. CEPO also successfully planned and executed the FY20 DHA Clinical Communities Speaker Series virtually, where the CE/CME educational activities enhanced quality of care, patient outcomes and population health by improving the practice skills and clinical knowledge of health care providers across the military health care system.

Lolita O'Donnell
Director, CEPO

Defense Civilian Personnel Advisory Service – *Amy Rogers*

Amy Rogers
Chief Learning
Officer for the
Civilian Workforce

The Defense Civilian Personnel Advisory Service (DCPAS) develops, implements, and monitors DoD civilian human resources, including leadership programs, career and professional development, and the human resources functional community. DCPAS undertook several efforts in 2020 that impact learning infrastructure and programming. One initiative aims to reduce the number of LMSs in the "Fourth Estate" (i.e., outside of the military services) from 17 to 14 by 2024. Another effort will revise and consolidate DCPAS training, education, and professional development policies—one of many efforts streamlining the existing 90 Defense Instructions and providing more integrated and modern guidance. A third effort is updating the DoD Leaders Competency Model, which was last reviewed five years ago; that update is anticipated to be released in 2021. Additionally, DCPAS leads the **Defense Chief Learning Officer Council** (DCLOC), a DoD-wide working group. The DCLOC established a number of communities to institute a coaching culture across DoD. These communities of interest will help establish an in-house coaching training program and address the inconsistency of tools available across the DoD learning and development community. DCPAS is also looking into an awards working group to recognize the great work and skills of the DCLOC community. DADLAC members are invited to participate with any of these groups.

Members Helping Members: An Example of Collaboration

Shared by Floyd McKinney, Chief, Learning Services Operations, AETC

The DADLAC provides the Air Force with the continuing ability to share information and collaborate with other DoD components in meaningful ways that would be difficult to achieve otherwise. The DADLAC facilitates the long-standing, close relationships AETC maintains with our ADL counterparts across DoD by holding meetings annually as well as by promoting more frequent virtual communications. In 2020, AETC participated in the recurring DADLAC meetings, as well as the ADL Initiative Principal Investigator (PI) meeting, and the annual Federal E-Learning Science & Technology (iFEST) conference.

In addition to these meetings and events, AETC participated in technical projects led by the ADL Initiative, which include varying mixes of DoD Components. These projects are intended to advance ADL capabilities to increase readiness, facilitate interoperability, or otherwise enhance mission execution. In addition, the projects provide more extensive opportunities for participants to share deeper technical information to the benefit of all involved. During FY 2020, AETC specifically participated in TLA, Enterprise Learner Record Repository Prototype, and EDLM efforts.

One significant area where Airmen will see the effects of these various 2020 activities is the outcome of AETC's collaboration with the Navy and Marine Corps to select the new LMS to replace the aging Air Force Advanced Distributed Learning Service (ADLS) and the Enterprise Blended Learning Service. The Navy and Marine Corps shared information, experiences, and lessons learned with AETC as they acquired their respective Moodle LMSs. AETC utilized the valuable information received as part of our analysis to also select Moodle as the foundation for our replacement. AETC would not have had access to the Navy and Marine experts without the facilitation provided by the DADLAC.

DoD Instruction 1322.26 References Update

DoD Instruction 1322.26 governs the implementation and oversight of distributed learning for the DoD. The Instruction also includes **fungible references,** i.e., appendices that can be regularly updated by the DADLAC without requiring entire revisions to the DoDI. These references outline the most current technical information for DoD learning, such as guidance on software specifications and file types. DoD Components should refer to the DoD Instruction and its references when acquiring or implementing distributed learning systems. The ADL Initiative and the DADLAC update these references as needed, which is typically one to three times annually.

Updates in 2020

Metadata For Learning Systems

Metadata guidance was one of the two major updates to the references last year. Due to its growing usage in learning systems and courseware, it was important to provide direction on how to optimize learning content metadata. Metadata provides information (e.g., author, file size, subject, title, duration) about learning activities and experiences. When creating learning resource metadata, DoD Components should enforce the use of controlled vocabularies. This will help reduce ambiguity of learning data and increase its use for education and training decision making, as well as improve interoperability of learning systems and searchability of learning resources.

Technical Standards Guidance

The references include specifications and standards DoD should consider when acquiring distributed learning solutions. In 2020, this section was expanded to include updated xAPI standard information and new cmi5 specification guidance. The DoD is encouraged to start using the cmi5 specification (which expands upon SCORM® functionality) with the intention of replacing SCORM as the de-facto format of online courses and traditional computer-based training.

New Glossary

In addition to contributing to reference revisions, the DADLAC requested and approved the addition of a glossary of distributed learning terms. It's located in the resources section of the ADL Initiative website: **https://www.adlnet.gov/resources**.

Upcoming Updates for 2021

In 2021, the DADLAC will be invited to vote on new guidance for the topics listed below.

- Identity, Credentials, and Access Management, and its impact on xAPI data
- Expanded guidance on cmi5
- Expanded guidance on learning resource metadata, particularly for the semantic web
- Expanded guidance on competency-based learning, particularly data standards
- New xAPI information, given the upcoming v2.0 release and xAPI Profile Server

The ADL Initiative will formally disseminate language on these updates to the DADLAC shortly after the new year. Collaboration will happen asynchronously and the updates will be finalized during a formal meeting.

A New Look For the References

The DADLAC will soon have a more efficient way to access the DoDI references on **ADLnet.gov**. A new interactive version will enable users to search the references by key terms and user role. A downloadable PDF of the references will be available from the site.

Communications with the Community
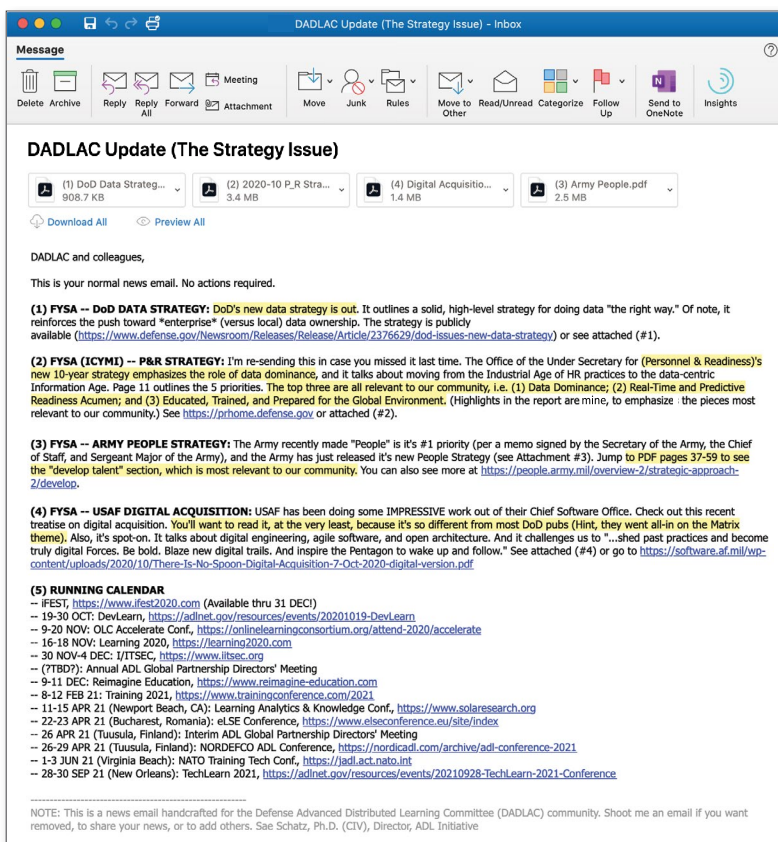
DADLAC Commercial Virtual Remote Environment

Last year we established a **Commercial Virtual Remote (CVR) Environment channel**. DADLAC members can use it to access key resources including 2020 virtual meeting notes and highlights, and copies of DADLAC digest emails. There's also an interactive list of upcoming events. (Note, CVR is only accessible with a CVR account, which requires a valid .MIL email address.)
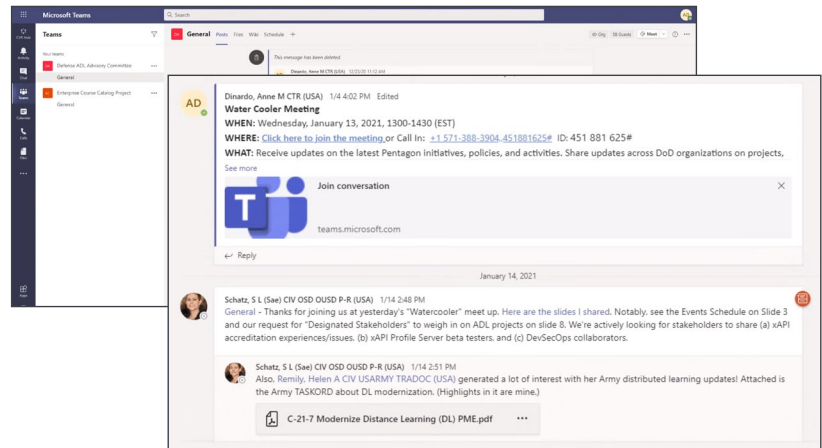
Above: Screenshot of the CVR DADLAC channel

DADLAC Digest Emails

The ADL Initiative sends digest emails regularly, summarizing new policies, resources, and member updates for the DADLAC community. These emails are one of the primary ways the community shares information. Members are encouraged to review and forward relevant materials to their teams and colleagues.

Examples of resources shared via Email Updates in 2020

Report to Congress on Implementation of Defense Science Board Report Recommendations, "Design and Acquisition of Software for Defense Systems," from Section 868 of the National Defense Authorization Act for Fiscal Year 2019 (P.L. 115-232).

The Defense Human Resources Activity's **Privacy Playbook**, which outlines guidance on how to maintain compliance with federal law and DoD policy when collecting, maintaining, safeguarding, and sharing personally identifiable information.

xAPI Version 2.0 Standard: The IEEE Learning Technology Standards Committee plans to standardize an updated version of the xAPI specification, dubbed version 2.0.

Contact the ADL Initiative if you or your military or civilian colleagues would like to be added to the email list. You can also review previously sent emails on the DADLAC CVR channel.

2020
Policies in Review

DADLAC members help their respective distributed learning organizations implement and ensure compliance with policies. In 2020, relevant DoD and Federal guidance largely emphasized data and IT modernization. See below for snapshots of some of the latest policies and other guidance impacting DoD distributed learning programs.

Personnel and Readiness Strategy

The Office of the Under Secretary for Personnel and Readiness released a new **10-year strategy** in October 2020. It emphasizes the role of data dominance and discusses the need to transition from the Industrial Age of human resources to the data-centric Information Age. It states, "We must optimize warfighting readiness by providing senior leaders the ability to rapidly make data-informed decisions with real-time and predictive knowledge that accounts for risk." Additionally, the strategy outlines the five priorities: (1) Data dominance; (2) Real-time predictive readiness acumen; (3) Educated, trained, and prepared for the global environment; (4) A resilient and adaptive total force; and (5) Talent management fit for the times. Each of these pillars—particularly the first three—are relevant to our community.

DoD Enterprise Digital Learning Modernization

The Enterprise Digital Learning Modernization (EDLM) reform is a sweeping effort meant to improve DoD's digital learning systems. It includes two major goals: first, improve the way DoD buys and maintains digital learning software and services through **USALearning**, and second, modernize digital learning systems by implementing federated digital architectures and enterprise data-driven methods. The ADL Initiative is helping to build this architecture, including the **Enterprise Course Catalog** and **Enterprise Learner Records Repository**. The EDLM reform was first approved in July 2018 by the Reform Management Group (a senior Pentagon committee), and substantial progress was made in 2020, to include issuance of new policy memos from the DoD Chief Management Office (CMO) and the establishment of an Executive Steering Committee. Learn more at the CMO website under the resource section at **https://cmo.defense.gov**.
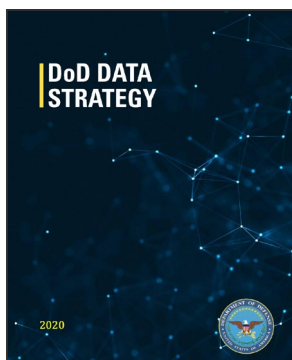
DoD Data Strategy

The **DoD Data Strategy**, released in September 2020, is a key component of the Department's Digital Modernization program. This Strategy reinforces the push toward enterprise (versus local) data ownership and provides the overarching vision, focus areas, guiding principles, essential capabilities, and goals necessary to transform the DoD into a data-centric enterprise. To implement this Strategy, DoD Components will need to develop or convert their existing data strategies into measurable Data Strategy Implementation Plans. The Chief Data Officer Council will support this effort with a common lexicon and common metrics/measures of performance for these plans.

Federal Identity, Credential, and Access

The Federal Identity, Credential, and Access Management (FICAM) project is the Federal Government's implementation of ICAM. It provides a common set of standards and implementation guidance for Federal agencies. The Federal Government recently released a **FICAM Architecture playbook**, a framework for agencies to use, and solution roadmap planning. The FICAM architecture focuses on enterprise identity processes, practices, policies, and information security disciplines. In 2020, the ADL Initiative reviewed and helped contextualize FICAM for the DoD distributed learning community. For example, the TLA Reference Implementation was configured in accordance with FICAM policies. Currently, ADL Initiative engineers are working with personnel from the Center for Development of Security Excellence to **validate those TLA FICAM specifications**. Once the specifications are proven effective for DoD distributed learning systems, new language about FICAM will be added to the DoDI 1322.26 references.

Federal Data Strategy—2020 Action Plan

The **Federal Data Strategy** provides a set of principles for implementing data innovations that drive value for the public. The **2020 Action Plan** creates a foundation to support im-

Federal Data Strategy
Leveraging Data as a Strategic Asset

plementation of the strategy over the next decade. It identifies initial actions for agencies to establish processes, build capacity, and align existing efforts to better leverage data as a strategic asset. The 2020 Action Plan also lists a series of pilot projects already underway at individual agencies and a set of government-wide efforts designed to support all agencies through the development of tools and resources. The website, located at **https://strategy.data.gov**, provides a wealth of information on how this strategy will be carried out. Visit the website resources section to access tools such as the Data Maturity Assessment Guide and Data Governance Playbook.

DoD Digital Modernization Strategy

Originally published in 2019, the **DoD Digital Modernization Strategy** continued to serve as an organizing framework for DoD technology and data modernization efforts, including the DoD data strategy, **DevSecOps guidance**, and **DoD cloud modernization**.

President's Management Agenda

The 2018 **President's Management Agenda** continued to provide an overarching strategy for modernizing government operations. The government-wide plan articulates a series of near-term actions, which will help agencies accelerate modernization and enhance their ability to successfully transform over the long term. The strategy starts with three foundational drivers, all three of which are applicable to the DADLAC community: (1) IT Modernization—adopting modern technology to improve customer service, user experience, and data security; (2) Data, Accountability, and Transparency—improving how the government uses the data it has, ensures its protection, and drives public value; and (3) People—preparing for the 21st century workforce.

COVID-19 and Beyond

DoD distributed learning organizations responded to the COVID-19 crisis with a range of solutions. Despite some initial difficulties, the DADLAC community rose to the challenge, identified ways to future-proof for the next crisis, and rapidly increased the scope and scale of distributed learning, online collaboration, and telework. This section highlights these efforts.

Army

The COVID-19 situation was an unfortunate opportunity to establish new distributed and blended learning programs. The current health crisis has underscored the idea of "take the training to the workforce rather than bring the workforce to the training." The Army is using lessons learned from COVID-19 to explore and improve its current virtual learning environments and to prepare for future crises.

Army centers and schools successfully adapted their education and training in response to the health crisis. Many new tools have been made available for Army users, and lessons learned from experimenting with these tools will apply to future education and training needs. The Army doesn't plan to return to the (old) status quo after the COVID-19 pandemic; instead, Training and Doctrine Command is promoting a new vision for learning, where computer-managed instruction is the new normal.

An operational planning team has been established to look at the near-, mid-, and long-term phases of implementing this vision. This includes evaluating—and updating—the Army's resourcing model for education and training to better support distributed learning and other alternative delivery modalities of education and training.

Navy

NETC responded to the COVID-19 situation by balancing the "health of the force" and the "risk to mission." A lesson learned is that distributed learning must be prioritized to ensure warfighters are prepared to carry out missions—to be agile, adaptive, and innovative. The Navy started mandatory telework on 23 March 2020, and training of Sailors needed to continue despite in-person contact restrictions. (Training is considered an essential mission.) New recruits were at first quarantined and then given tablets for basic training delivered online before transitioning to boot camp. COVID-19 has increased the perception of distributed learning as important, which has become a critical issue in terms of how fast we can take action to provided needed training.

Air Force

The Air Force responded to COVID-19 by rapidly directing personnel to telework where possible and employing social distancing measures for those who could not. Small pockets of Air Force personnel were already proficient at conducting business via telework. Fortuitously, the Air Force had acquired collaborative software subscriptions for use by personnel under their NIPRnet accounts several months prior to COVID-19. Personnel learned how to use the collaborative software, which became a necessity for operations. The Air Force also increased the scale of its Enterprise Blended Learning

Service, and ramped up utilization of that platform to virtualize more of their education and training activities while reducing face-to-face interactions.

Air Force Basic Military Training (BMT) is one example of a mission that could not be executed virtually. This training program adapted rapidly by splitting recruits between Lackland and Keesler Air Force bases to help with social distancing. This enabled the Air Force to continue the BMT mission and deliver new Airmen to their formal technical training courses and operational duty stations despite the constraints caused by COVID-19.

Marine Corps

TECOM experienced a surge in its use of virtual collaboration software when COVID-19 prompted in-person learning to shut down. The distance Professional Education program had planned for 126 simultaneous users for virtual learning, which spiked to 1200 simultaneous users per month in August 2020. Initially when there was a shift to virtual, many different tools were being used to continue interacting, working, and learning. TECOM has now consolidated their educational and training technologies for the virtual environment.

Joint Staff J7

COVID-19 challenges have highlighted the mission relevance of JKO, which was able to transition almost seamlessly without interruption to the virtual training environment. JKO experienced a 140% increase in training hours delivered over first two weeks (19 March–1 April), with 589,000 training hours delivered the week of 23–30 April—the highest in JKO's history.

The JKO platforms are on secure military classified and unclassified networks, which have remained fully operational providing online access to courses and collaboration sites. The support team has remained fully operational, developing training courses and facilitating use of JKO tools with online tutorials. The 24/7 Customer Support Center transitioned to remote capability and has also remained fully operational supporting a worldwide DoD customer base.

Last year, JKO also received many new requests from Combatant Commands to convert legacy courses into digital learning opportunities.

Defense Logistics Agency

In response to COVID-19, Defense Logistics Agency (DLA) Training is focused on accomplishing a compacted transition to immersive virtual training (IVT)/distributed learning. The pandemic accelerated DLA's IVT efforts already in progress with the goal to achieve "majority-IVT" delivery opportunities.

DLA was able to fine-tune its IVT processes as well as validate the known and unknown challenges associated with using this technology. The successful (90–100%) completions of IVT deliveries will contribute to DLA moving from antiquated paradigms to out-of-box thinking for distributed learning. Last year, 98 DLA training courses were converted to virtual, 18 courses were delivered virtually to PACER Groups (DLA interns) in order to maintain their graduation timelines, and 3,600 person-hours were expended to assure training content was in compliance with Section 508.

> " Participation in DADLAC allows for minimizing "re-building roads already built." They just need to be discovered and re-purposed, to the degree possible. The "luxury" of starting from ground-zero for every single learning situation (F2F and/or virtual) or effort is myopic and goes against logic. Significant success cannot be accomplished in a vacuum.
>
> **James Taite**
> Defense Logistics Agency
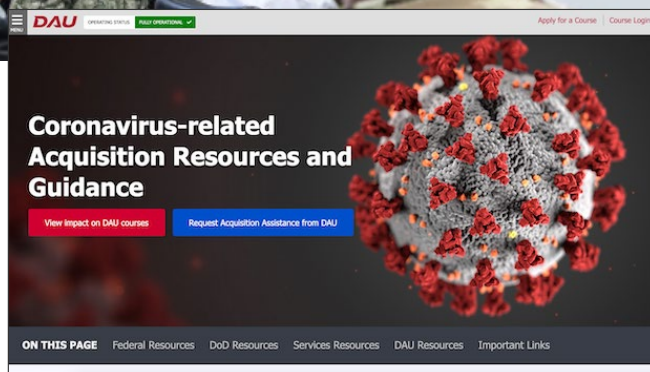
Defense Acquisition University

Similar to many other education and training programs around the world, the delivery of DAU courses was disrupted by the COVID-19 pandemic. However, DAU was able to react swiftly and move 80% of its in-residence course offerings online, thereby enabling more than 15,000 workforce members to continue training without interruption. DAU also developed a "Coronavirus Acquisition Guidance and Resources" page located at **https://www.dau.edu/coronavirus**. It provides a curated list of policy guidance, statutes, and tools issued across the Federal Government and DoD related to acquisition in the pandemic environment. Since its launch in April 2020, the page has been visited an average of 1,500 times per month. Each of these visits represent a connection between an acquisition professional and a critical piece of information required to perform their duties in support of the warfighter.

Defense Health Agency: Continuing Education Program Office

During the pandemic, DHA's Continuing Education Program Office was able to offer scheduled courses while supporting new training to address COVID-19 health needs. All continuing education events were successfully executed from a completely virtual environment. The office also supported COVID-19 vaccine plan leadership meetings with the Military Treatment Facility commander and directors regarding vaccine distribution. These meetings were led as a collaborative exercise with the DHA Public Affairs Office in distributing key information to stakeholders in a virtual environment.

COVID-19 also generated the need for training on administering vaccinations. The Continuing Education Program Office supported the Center for Disease Control COVID-19 vaccine training enduring event, titled "General Overview of Immunization Best Practices for Health Care Providers." This event opened on 1 December 2020 and will close on 31 December 2021. It offers 2.0 CE credits to learners. To date 5,082 registrants/attendees have attended, and 9,910 CE/CME and 4,380 Certificates of Attendance credits have been issued.

> **DMMSO values its participation in the DADLAC because it provides a collaborative environment for stakeholders to discuss current projects and upcoming requirements, which ensures that DMMSO is not only aware of these initiatives, but is also headed in the right direction.**
>
> **Ruben Garza**, Defense Health Agency

Uniformed Services University of the Health Sciences

The Uniformed Services University of the Health Sciences (USU) was in a favorable position to respond to COVID-19 due to lessons learned from Hurricane Katrina and H1N1 contingency planning during the early 2000s. USU had already implemented collaboration tools, infrastructure upgrades, bandwidth increases, and additional redundancies. Consequently, telework, distributed learning, and remote access demands due to COVID-19 were effectively addressed. In addition, USU provided a 24/7 Virtual Private Network (VPN) and additional training for users who were not accustomed these collaboration tools.

Examples of IT Modernization and Improved Capabilities Undertaken by USU

- Established a .edu accredited network (8+ years running), which provides a secure gateway for academic access and research collaboration, enabling unfettered access to high bandwidth internet content

- Established a professional-grade green room for recording lectures and implemented a robust lecture capture system, which provides an additional asynchronous teaching modality

- Developed dozens of quick-reference guides showing faculty how to perform common and emergency distributed learning tasks

- Established a virtual help desk and instructional design support

- Established an accredited full-collaboration suite in 2011, which supported a surge to over 16,000 web conferences (>1 million hours) per month overnight

- Modernized the University's LMS while reducing per-user costs from $1840/user to $4/user

- Delivered a 4000x increase in bandwidth, providing not only improved academic bandwidth but also a 100 Gigabit Ethernet connection supporting one of the world's most productive genome sequencing centers

- Implemented digital transformation for virtual graduation and in-processing of 400 students

16,000 Web Conferences (> 1 Million Hours)

4,000 Fold increase in bandwidth providing improved academic bandwidth

100 GbE Ethernet connection supporting one of the world's most productive genome sequencing centers

$1,840/user → **$4/user** Modernization of the University's Learning Management System

Building the Total Learning Architecture Together

The ADL Initiative's TLA project, undertaken in collaboration with DADLAC members, plays a big part in establishing a secure and interconnected data-sharing architecture for DoD learning systems. The TLA serves as the critical backbone for how DoD learning systems will connect and share critical learning data, enterprise-wide. This data interoperability will help enable personalized learning, including at the point of need, for individuals across DoD—which is a priority goal shared across the DADLAC community. This past year we saw great progress by the community to achieve the TLA vision.

In November 2020, the ADL Initiative completed a TLA prototype ("reference implementation") in conjunction with DAU. This work includes a digital learning sandbox that supports testing and evaluation of different approaches for integrating TLA tools and standards into cloud-based technology stacks. Some of the TLA-compliant capabilities being explored include the **Competency and Skills Systems (CASS)**, **Data Simulator for TLA (DATASIM)**, **Personal E-book for Learning (PeBL)**, and **Pervasive Learning Systems (PERLS)**.

Additionally, DHA (with support from the Naval Air Warfare Center Training Systems Division and the ADL Initiative) is using the TLA to help modernize the Military Health System (MHS) learning infrastructure. This work is part of DHA's consolidation of Army, Navy, and Air Force hospitals and clinics—and their education and training programs—into an integrated system. The MHS TLA effort establishes a MHS-specific data strategy, consistent with the TLA, to make medical workforce education and training services interoperable across the participating Services. The DHA medical training "ecosystem" will support roughly 138,000 people. The ADL Initiative is supporting DHA on exploratory activities, including competency framework development, credentialing strategies, and the use of sandbox resources for testing and evaluating DHA's implementation of TLA tools.

Lastly, the ADL Initiative coordinated with the Army Synthetic Training Environment Cross Functional Team (STE-CFT) and the Army Combat Capabilities Development Center (CCDC) on TLA standards in support of the Program Executive Office Simulation, Training, and Instrumentation (PEO STRI). The team is reviewing inclusion of TLA standards into the STE Request for Solutions, currently in development. Inclusion of the TLA standards into this contracting document will formalize the integration of diverse digital learning systems with live/virtual/constructive simulations.

> **The DADLAC supports a Distributed Learning collaboration across the Department of Defense. Collective benefits continue to be available in the efficient use of resources and information in a highly technical and evolving industry.**
>
> **Helen Remily**, The Army Distributed Learning Program

xAPI Progress in 2020

The xAPI interoperability specification enables the encoding, exchange, storage, and retrieval of a wide range of "experience" (outcomes) data across diverse delivery platforms. By using xAPI with distributed learning content, an expanded amount of high-value learner information can be gathered to support better performance evaluation, personalized learning, and critical decision-making.

xAPI v2.0

As of late 2020, the xAPI specification is undergoing formal standardization via the Institute of Electrical and Electronics Engineers (IEEE), a leading international standards organization. The first IEEE release of the xAPI standard will be version 2.0. It includes improvements such as language clarifications, better defined "actor" and "activity" relationships, and standardized timestamps. A best-practices guide is also under development, and it will be linked to the eventual standard as a living document. DADLAC members are encouraged to join IEEE working groups working on the standard. More info is available at **https://adlnet.gov/research/working-groups**.

DoD xAPI Adoption Working Group

The ADL Initiative's xAPI Adoption Working Group brought together approximately 200 members from 60 government organizations, including all military branches, to work on solutions that support usage of xAPI across DoD. This group contributed to the creation of templates and documentation required to support the widespread adoption of xAPI across the DoD, and its sunset in 2020, in anticipation of the release of the new IEEE xAPI 2.0 standard.

Become a Beta Tester!

Before the xAPI Profile Server goes online for widespread use, the ADL Initiative is seeking interested DoD and Federal Government stakeholders for beta testing in 2021. If your organization is interested in authoring, managing, or publishing xAPI Profiles, contact the ADL Initiative.

xAPI Profile Server

The ADL Initiative is developing the alpha version of its new xAPI Profile Server to help increase usage of xAPI as well. This web-based application will support the authoring, management, and publishing of xAPI Profiles. It also features user-friendly tools for instructional developers and designers to use. The xAPI Profile Server will include guidance for using standardized verbs, templates, patterns, and concepts, while ensuring conformance to the xAPI Profile specification and DoD data strategies. For more info, see **https://adlnet.gov/projects/xapi**.

NETC xAPI Library Project

NETC demonstrated its xAPI Library at the September 2020 DADLAC meeting. This useful tool provides a range of resources for organizations leveraging xAPI, including step-by-step guides and examples for xAPI Profile development. Code libraries, content examples, and other features are available to assist developers and instructional designers. Acquisition professionals can also access information on procuring systems or services that are xAPI enabled. DADLAC members are invited to test-drive it at **https://netc.usalearning.net/xapi-library.**

Adobe Flash® Deprecation

Another major 2020 challenge was the end-of-year deadline to remove Flash® from all major browsers. This far-reaching technology change impacted thousands of hours of online content used for DoD education and training. To help address the issue, the ADL Initiative ran a Flash Deprecation Analysis of Alternatives Working Group, which met from 2018-2020. Through it, DADLAC member organizations worked together to understand and mitigate the impacts of the software platform's deprecation. A major success of the group was the creation and sharing of several tools, cost calculators, and scripts. These capabilities, now being used across the DoD enterprise, have assisted group members with the content migration process.

The Working Group also assisted the DoD CIO Office in gathering information for progress on Flash mitigation. Eight member organizations indicated that they were either complete or on track for the December deadline. As of March 2020, about 31% of the 9000 Flash courses identified by the Working Group were in the transition process, but by the end of the year, organizations reported they expected to complete the transition before the December 2020 deadline. A representative from the Office of the CIO, who presented at the May 2020 DADLAC virtual meeting, recognized the efforts of the working group and stressed that tools generated from it should be leveraged, such as the use of templates for HTML5 conversion. Learn more at **https://adlnet.gov/projects/flash-end-of-life-response**.
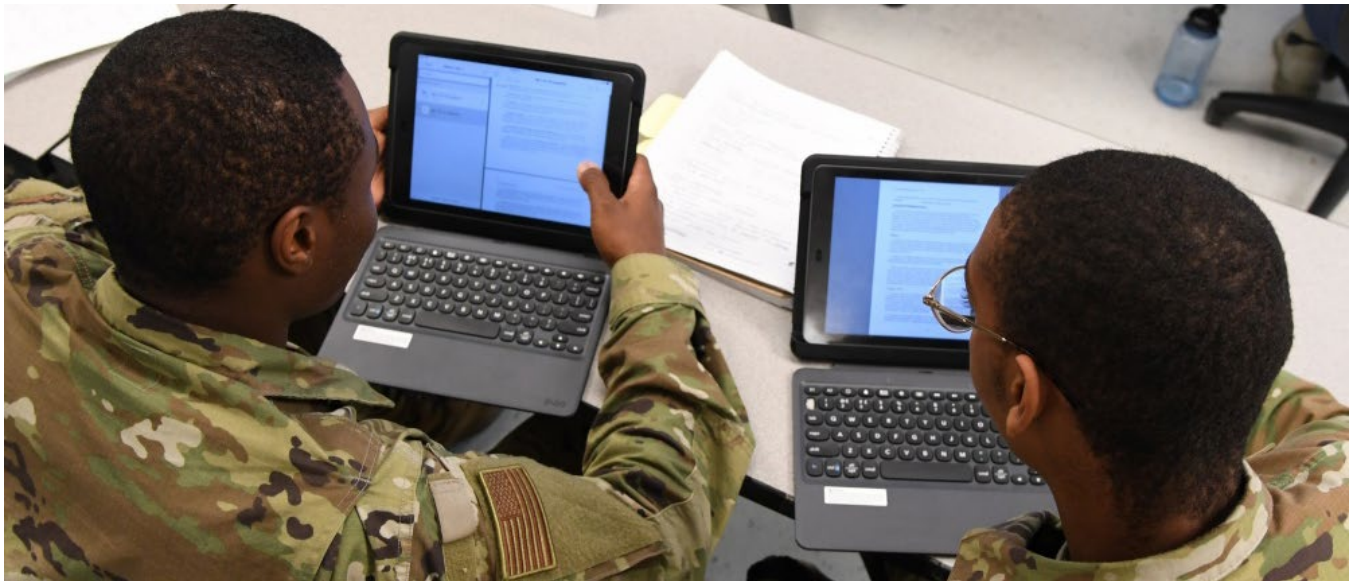
Implementation of Personalized eBook for Learning

In 2020, the ADL Initiative's **Personalized eBook for Learning (PeBL) project** reached a key milestone by transitioning from an R&D effort to a tested product for personalized and interactive learning. This open-source eBook platform merges interactive features, mobile device technologies, and an eBook experience. It also provides functionality that adapts content in response to learners and includes xAPI integration for learning analytics. For example, it can track learner behavior using performance data and while doing so, use that capability to collaborate with other PeBL users to optimize learning.

Marines test the PeBL interface

PeBL Partnerships with DADLAC Members in 2020

- The ADL Initiative worked with USALearning to mature the **PeBL** platform within a sandbox environment and then made it available to the distributed learning community in the **Learning Technology Warehouse (LTW)** portal.

- USMC TECOM produced an enhanced version of the Marine Corps Doctrinal Publication 7, "Learning" (**MCDP 7**) on PeBL. This version was released in September 2020 to 180,000 Marines. Other PeBL publications are expected to follow for USMC.

- The Navy and the ADL Initiative collaborated on creating a PeBL beginner eBook on Artificial Intelligence—an AI primer—to support Science, Technology, Engineering, and Mathematics education. The eBook prototype is expected to be complete by early 2021, followed by classroom testing and student feedback. The AI primer will be available for iPads, other tablets, and browsers, and it will offer separate interfaces for students and instructors. More info can be found in the *Future Force Magazine* (**https://futureforce.navylive.dodlive.mil**) **Vol. 6, No. 4, 2020** (See pg. 34).

Path to Distributed Learning Modernization

Army Explores Alternative Method to Deliver High Quality Education and Training

In 2020, the Army kicked off a two-year effort to modernize its distance learning for professional military education. This effort will bring about systemic changes to business practices and transition TRADOC courses to distributed and blended learning modalities. This reflects the need for a long-term realigned mix of distributed learning, blended learning, virtual classrooms, and traditional face-to-face instruction to support institutional education and training. Army University, as the TRADOC lead, is analyzing the requirements, and initial recommendations are expected in November 2021, to be delivered to the Army Learning Coordination Council and Training General Officer Steering Committee.

DAU Transformation Plan Aims to Build an Efficient and Effective Acquisition Workforce

DAU is exploring a shift in its learning asset creation and delivery model that will drive talent development toward tailorable courses, informal online learning, and micro-credentials that hone job-critical skills. DAU's *Transformation Implementation Plan*, released in 2020, reflects the results of the Defense-wide review and represents a concerted effort of the Under Secretary of Defense for Acquisition and Sustainment, the Services Acquisition Executives, and the Component Acquisition Executives to reengineer workforce talent development. The plan includes a comprehensive redesign of DAU's curriculum to make learning tailorable to the needs of individual learners, reduce required training time, and make learning assets more engaging. In addition, DAU is embarking on course conversion to online and virtual delivery to bring more learning to the workforce at the time of need.

Mark Your Calendars!
This Year's Plans

DADLAC Water Cooler Events (Optional)

On 13 January, the DADLAC launched a series of virtual meetings dubbed "water cooler events." DADLAC members are invited to attend these open forums to discuss distributed learning topics and receive updates on the latest DoD initiatives and policies. **These meetings are held throughout the year on select Wednesdays, 1300–1430 ET. Check schedule section in CVR for dates.** Representatives from each DADLAC organization are encouraged to attend. These meetings are open to military and civilian personnel, and those representatives may invite their direct, on-site support contractors, with permission. Outside vendors are not invited.

2021 Formal DADLAC Meetings (Required)

We've scheduled two, formal DADLAC meetings for 2021. The first is planned as a video teleconference via CVR in April. The second will, hopefully, coincide with the Federal e-Learning Science and Technology Conference (iFEST) and be held in person, in the Washington, D.C. area.

Spring Meeting (Virtual)
14 April

Fall Meeting (In-Person, Tentative)
1–2 September

Desk-side Meetings with DADLAC Members

January 2021 kicked-off a series of "desk-side" meetings—informal conversations between DADLAC member organizations and the ADL Initiative. These one-on-one conversations are meant to provide a venue for DADLAC members to offer feedback and make requests to the ADL Initiative and larger DADLAC community. The ADL Initiative will reach out to members to schedule these meetings throughout the year, or you can reach out directly by contacting **outreach@adlnet.gov**.

Desk-side Meetings
30–45-minute monthly on CVR

iFEST: August–September 2021

In collaboration with the National Training and Simulation Association (NTSA), the ADL Initiative encourages DADLAC members to participate in iFEST 2021. This event provides unique opportunities for military, government, industry, and academia professionals to share the latest in distributed learning innovations. As of the writing of this report, iFEST organizers are looking to schedule it from 30 August–1 September 2021. Plans are to hold the meeting virtually and, if safe, include a face-to-face component that will feature VIP sessions and collaborative activities.

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