



Defense Acquisition University

Performance Learning Roadmap

A Network-centric Approach for Engaged Learners



Training Courses

Knowledge Sharing



Performance Support

Continuous Learning



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To Our Friends, Thank You!

In addition to our Board of Vistors, we are indebted to many who have given us their best practices, advice, and friendship in preparation of this *Performance Learning Roadmap*. These organizations contributed information about their Web-based training methods, experiences, tool preferences, instructional approaches, assessment methods, obstacles, and support structures. Among those representing their organizations were managers, instructional designers, trainers, and consultants. Nearly all were users of Web-based training or decision-makers regarding it.

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United Nations Development Programme
University of Wisconsin (UWSA)–Madison
U.S. Coast Guard
U.S. Department of Commerce
U.S. Department of Homeland Security
Wachovia Corporation

Creating a document of this scope and design is truly a team effort. We are deeply indebted to our valued friends who have given of their time and advice to directly assist us in creating this Performance Learning Roadmap.

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Department of Defense
ADL Initiative

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Our Web site is
<http://www.dau.mil>

Most organizations sought cost efficiencies and positive returns through learning object reuse. Many were not satisfied with their online tools and assessment practices. The No. 1 obstacle cited was integration with other tools followed by cultural support, instructor preparation time, and bandwidth inadequacies.

While predicting the future is always difficult, several trends and topics are identical to ours, including mobile learning, use of learning assets, establishment of standards, knowledge management, online mentoring, and intelligent tutoring.

Table of Contents

Preface _____	2
The DAU Performance Learning Roadmap—A Network-centric Approach for Engaged Learners _____	3
Our Road Ahead: Projected Advancements to Enable Engaged Learning _____	6
Delivering the PLM: Strategies for Engaging the Learner in a Network-centric Environment _____	13
Competency-Based Learning _____	15
Knowledge Sharing _____	17
Performance Support _____	22
Continuous Learning _____	24
Learning Asset Integration _____	26



"As we prepare for the future, we must think differently... We must transform not only the capabilities at our disposal, but also the way we think, the way we train."

Donald H. Rumsfeld
Secretary of Defense
DoD Transformation Planning

Preface

The Acquisition, Technology and Logistics (AT&L) workplace is rapidly evolving to transform the way we conduct business. Spread all over the world to provide critical systems and support to the warfighter, our workforce demands responsive, point-of-need learning, the ability to access knowledge, and the ability to collaborate with experts at the point of need.

The Defense Acquisition University (DAU) is developing learning and job performance support systems that remain with the AT&L workforce 24/7 and throughout their careers—the concept of “continuous presence.” Our focus is to shape a network-centric learning environment and exploit online resources and expertise. At the same time, we continue to reshape and improve our resident learning assets.

The first DAU e-Learning *Roadmap* focused on the acquisition and use of technology to deliver formal certification training. In FY01, we emphasized professional development that supported the integration of e-Learning. In FY02, we focused on the introduction of the Sharable Content Object Reference Model (SCORM) as we began to implement the Advanced Distributed Learning (ADL) Initiative’s recommendations. In FY03, our second e-Learning *Roadmap* saw the move to digital content at DAU. During FY03, DAU completed its reorganization into strategic regional centers collocated with our customers. DAU’s Curricula Development and Support Center (CDSC) and its e-Learning and Technology Center (eLTC) were centralized and matured to implement the elements of our *Performance Learning Model (PLM)*. We expanded online learning and our performance support environments and started delivering digital content. During FY03, DAU also assumed responsibility for DoD’s three major knowledge-sharing projects: the *DoD Deskbook*, *Acquisition Community Connection (ACC)*, and *AT&L Knowledge Sharing System (AKSS)*.

Because of the rapidly expanding “e” environment and our desire to cover all elements of the *PLM*, we have changed the name of this, the third in our series of e-Learning Roadmaps, to *Performance Learning Roadmap—A Network-centric Approach for Engaged Learners*. Fittingly, our third update focuses on the complementary concepts of network-centric learning and continuous presence as DAU’s interactive educational models actively cultivate, engage and perpetuate “engaged learners.”

DAU has expanded Web-enabled learning faster than most other federal and private-sector learning organizations. Experience has shown that non-resident instruction delivers the most value when tied to broader competency-based learning that reflects enterprise requirements. Our new, network-centric paradigm consists of a blend of learning assets delivered at the speed of business and at the point of need. The learner and the workplace supervisor will increasingly determine the location, time, and mode of delivery. We believe that by engaging learners on the job with learning assets, DAU can help enable them to provide the very best weapon systems, equipment, and services for our country. The connection between real-time learning and workplace application will significantly improve employee productivity, desired performance and business outcomes, and individual competency development. This is a win-win solution for our acquisition organizations as well as for each AT&L workforce member.



We set the standards for the university to be a “best-in-class” corporate university. We leverage best practices, learning technologies, and optimize resources to provide our customers with the skills they need to succeed.

Frank J. Anderson Jr.

Frank J. Anderson, Jr.
President, DAU

The DAU Performance Learning Roadmap— A Network-centric Approach for Engaged Learners

The mission of the Defense Acquisition University (DAU) is to provide practitioner training, career management, and services to enable the Department of Defense (DoD) Acquisition, Technology and Logistics (AT&L) community to make smart business decisions and deliver timely and affordable products and services to the warfighter. This encompasses formal training, continuous learning activities, workplace consulting, targeted training, rapid deployment training, and online knowledge sharing. The application of technology provides convenient, cost-effective access to high-quality learning assets, performance support, and expert advice for all members of the AT&L community, including our industry partners.

DAU employs a learning and development architecture called the AT&L *Performance Learning Model (PLM)*. The PLM provides a network-centric learning environment that overcomes the barriers of time, location, and distance, while delivering learning assets with speed, agility, and reach. As it continues to evolve, the PLM provides a structured foundation for engaged learners at all levels: entry, journeyman, supervisory, and managerial.

DAU Objectives

DAU seeks to create a network-centric environment for the engaged learner by achieving the following objectives:

- Deliver a network-centric learning enterprise with just-in-time learning and knowledge-sharing assets
- Combine the best of classroom training with Web-based instruction, providing scalability and expanding the anytime, anywhere advantage
- Provide a new mix of learning opportunities directed at making smart business decisions. By doing so, we will expand the competency and readiness of the AT&L community.



“DAU is key to promoting department-wide strategies and programs to ensure that we have the right acquisition, technology, and logistics workforce skills, capabilities and tools to support statutory, policy and warfighter requirements.”

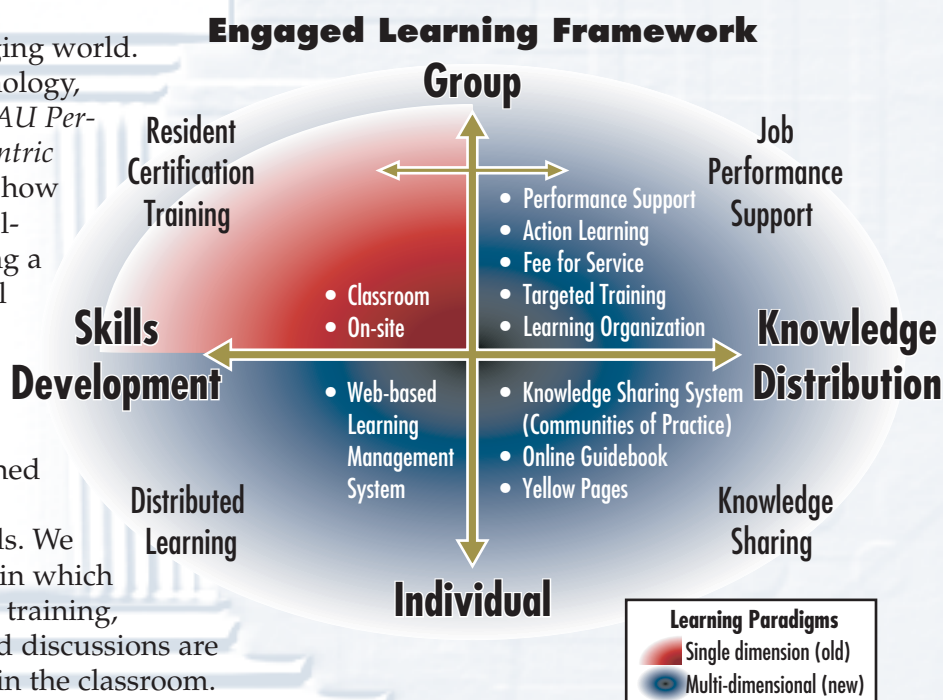
Kenneth J. Krieg
Under Secretary of Defense
(Acquisition, Technology, and Logistics)

Since the first Roadmap...

DAU has remained attuned to the changing world. We have attained a critical mass of technology, content, and deployment models. *The DAU Performance Learning Roadmap—A Network-centric Approach for Engaged Learners* focuses on how we can deliver this mature base of knowledge to our shareholders while remaining a driving force for innovation and a model for learning best practices.

The following are some of the revolutionary accomplishments achieved since the first e-Learning *Roadmap* was published in 2001:

- We have torn down the classroom walls. We have reengineered the primary model in which our learners go to class for instruction, training, and performance support. Lectures and discussions are just as likely to occur electronically as in the classroom.



- We have provided training at the point of need by means of asynchronous learning opportunities, which allow participation at any time and at any location with an Internet connection.
- We have connected instructors in Virginia with learners in worldwide locations such as Kabul, Brussels, and Baghdad, thus creating global learning communities for collaboration and interaction.
- We have extended our learner base to include our industry partners, here and abroad. A better-informed base of vendors and suppliers can facilitate the acquisition process, allow us to operate more effectively in a global market, and ensure that our standards and processes are both understood and followed.
- We have completed 26 of the 34 initiatives in the first and second *Roadmaps*. Five more are under way. These initiatives have allowed us to acquire appropriate technologies and create engaging content.
- Our partnership with the Advanced Distributed Learning (ADL) Initiative and the release of SCORM 2004, along with the emergence of the Content Object Repository Discovery and Registration Architecture (CORDRA) model, will make it possible for course developers to define navigation rules and turn online courses into intelligent tutors. CORDRA will provide the means of warehousing, sharing, cataloguing and finding learning objects stored in the burgeoning numbers of content databases around the world.

Network-centric Learning and the Engaged Learner

The AT&L learner must be engaged in order to create a motivated, agile workforce. Engaged learners are motivated knowledge seekers. They are passionate about learning and energized by it. Engaged learners know where to look for knowledge and how to transfer it to solve problems creatively. They experience the learning process by:

- Evaluating rather than merely absorbing information
- Solving problems
- Building their own mental models
- Taking responsibility for their learning
- Doing most of the work
- Controlling the learning process.

Our network-centric learning concept is directed at engaging learners by expanding the learning experience beyond the classroom and providing continuous support for AT&L professionals worldwide who need relevant, timely, and focused competency-based learning. This approach enables DAU to overcome the previously limiting constraints of time, space, distance, and location.

By deploying our engaged learner concept within the PLM, we can help DAU students and customers become adept and stay engaged in their jobs. By engaging them on the job with learning assets, DAU can help enable them to provide the very best weapon systems, equipment, and services for our country and the Department of Defense.

Who are DAU Learners?

In FY98, only 2 percent of DAU graduates were involved with an e-Learning asset. The projected DAU



"We always have to remember that the basic purpose of the acquisition system is to provide for the needs of warfighters; get them what they need, when they need it, at an affordable cost."

Col Mary Kringer, USAF
Commandant, DAU

Learning Environment Comparison



enrollment in certification courses for FY05 is 105,000 students. All 134,300 members of the AT&L community are now touched by some type of e-Learning asset. Online student instructional time at DAU has increased from 15,570 hours in FY98 to an expected 2.4 million hours in FY05. The trend is expected to continue as our collaboration and coaching capabilities increase and the percentage of classroom-based instruction continues to drop in the next 3 years, slipping to about 49 percent of projected seat time in FY05.

Value Proposition

What makes DAU invaluable to the AT&L community? DAU is focused on the concept of value-added performance learning that is delivered by the multidimensional PLM. Knowledge must add value. The fundamental concept of the PLM is to provide unique value-added content, in the right context, in the right way, and at the right time, to our customers and stakeholders.

DAU maintains these products and services through a close working relationship with the respective functional advisors of each career field in the AT&L community. We keep the content current, and can make changes rapidly.

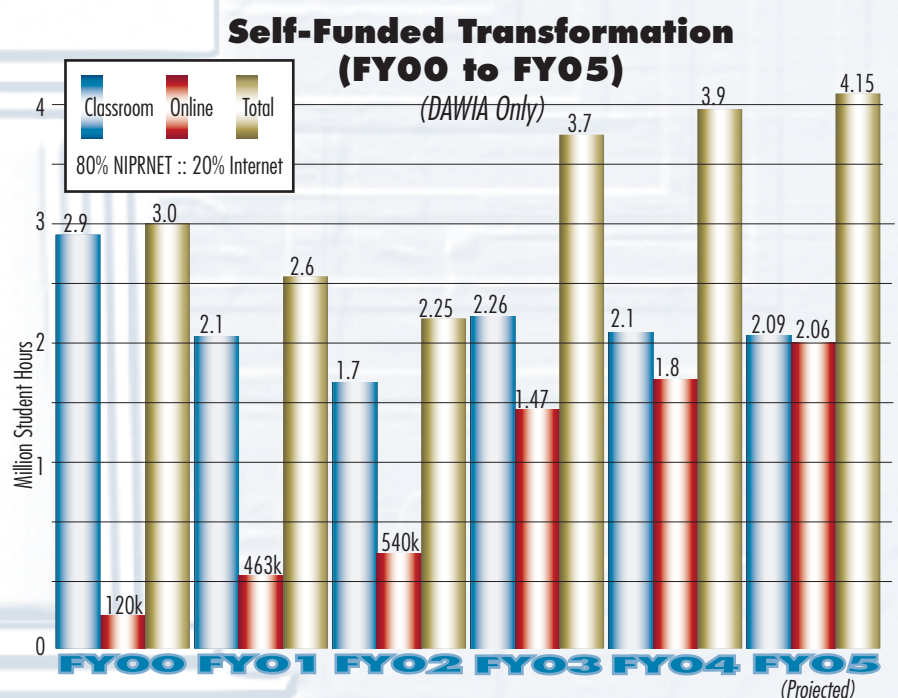
Learning Asset Integration (LAI) is at the heart of network-centric learning. DAU is implementing systems that will improve the capture, access, management, and delivery of learning content. We are creating a centralized AT&L digital repository linked to larger human capital management and knowledge management strategies. We are addressing the projected retirement boom by ensuring that workers possessing the proper skills sets are recruited, reskilled, and retained. In addition, through our Benchmark Review and Innovative Technology Evaluation (BRITE) initiative, we will continue to monitor and benchmark public-sector trends and leverage best practices in addressing our community needs.

As the job to be done increasingly defines performance requirements, many traditional career paths are merging. In the future, the average adult's working life may span six or seven career fields. Over-specialization and a limited perspective can create a career dead end. Members of the AT&L community cannot count on finding one smooth career path because jobs that exist today may change radically tomorrow. Members will need to have flexibility to be able to move from one project to another or from one specialty to another, as dictated by our post-9/11 missions. DAU is positioned to support this eventuality by providing knowledge tools that can help employees make smooth career transitions.



"DAU excels not only at global reach but at global reach-back to be able to plug back in and to move forward in their work environment."

*Dr. Paul Maybery
Deputy Under Secretary of Defense for
Readiness*



Our Road Ahead: Projected Advancements to Enable Network Centric Learning

It is no longer enough for DAU to transfer knowledge to students. It is not enough to deliver certification training one time to cover an employee's career. Instead, using the *PLM*, we provide the AT&L workforce 24/7 access to the world of knowledge throughout their careers.

Learning at the Point of Need

Our focus is on the processes and technologies that will allow us to capture, store, update, and deliver expertise to the AT&L community wherever and whenever they need it. To be successful, we need a clear understanding of how our community will use these assets. Considerations are:

- **Format:** Addressing the next generation of users and their equipment, whether subject matter expertise is delivered broadband to their desktop computer, their laptop, personal digital assistant (PDA), or via wireless means to create the phenomenon of seamless mobility
- **Time and Place:** Bringing real-time and appropriately sized 24/7 training; overcoming barriers of geography; and enabling direct customer, supplier, and partner interaction in the e-marketplace
- **Tailoring:** Enabling personalization and customization of assets and other information
- **Personalized Information Management:** Refining the information we provide, both how it is delivered and the size of the "chunks," so learners can determine what information they need and how best to access it
- **Knowledge Management:** Capturing, redistributing, and leveraging the expertise of our learning community through the use of template-based content creation and contribution tools.



More Than a Click: Defining the Future of Learning

To foster an adaptive, at-the-point-of-need learning culture, learning must offer employees two critical elements:

1. **Proximity**, defined as the ease of access and level of integration required to enable the AT&L workforce to use learning assets. The focus of proximity is to overcome the barriers of time, space, location, and distance
2. **Relevancy**, which dictates that what is provided by the learning asset addresses the immediate learning needs of the AT&L workforce at the point of need.

Proximity and relevancy ensure that learning will enable productivity gains in a rapidly changing business environment. The AT&L workforce must respond quickly to satisfy the shorter cycle times demanded in the post-9/11 acquisition environment.

We must provide attractive learning alternatives that deliver on the promise of proximity and relevancy. The DAU learning environment considers relevancy, context, and proximity as necessary learning factors that empower the AT&L

learner to be more effective on the job. In the future, the AT&L workforce will have the ability to choose when, where, what, and how to learn using non-traditional or informal learning tools.

Accessibility and Virtual Resources

We believe that in the next decade, three complementary interfaces will shape how students learn:

- Future improvements to accessibility will create unfettered access to distant experts and archives, enabling collaborations, mentoring relationships, Instant Messaging (IM), and virtual Communities of Practice (CoPs).
- “Ubiquitous computing” interfaces with portable devices will infuse virtual real-world resources into our courseware.
- Multiuser virtual environment interfaces will see participants’ avatars interact with computer-based agents and digital artifacts in virtual contexts.

In a network-centric learning environment, the future workflow emphasis will be on mobility, connectivity, and interchangeability—the storing and streaming of data anywhere and everywhere. In short—seamless computing experiences. It is a small step to extend this idea to courseware, continuing education, performance support, and just-in-time functionality. When personal servers go past the present prototype phase and become widely available as memory-efficient devices, we will see entire curricula on a student’s belt.

Anything that can be done on a PC, a TV, a camera, a cell phone, a video recorder or a music player, or any other device that handles digital data—will soon be available on *all* devices that handle digital data. And since most information will soon be coded digitally, it won’t be long before recording, storing, downloading, transferring and playing back information will be possible anywhere. The implications for learning are major. If lessons, graphics, performance support, continuing education modules, or research can be downloaded and played back or interface enabled anywhere, a network-centric learning environment exists.

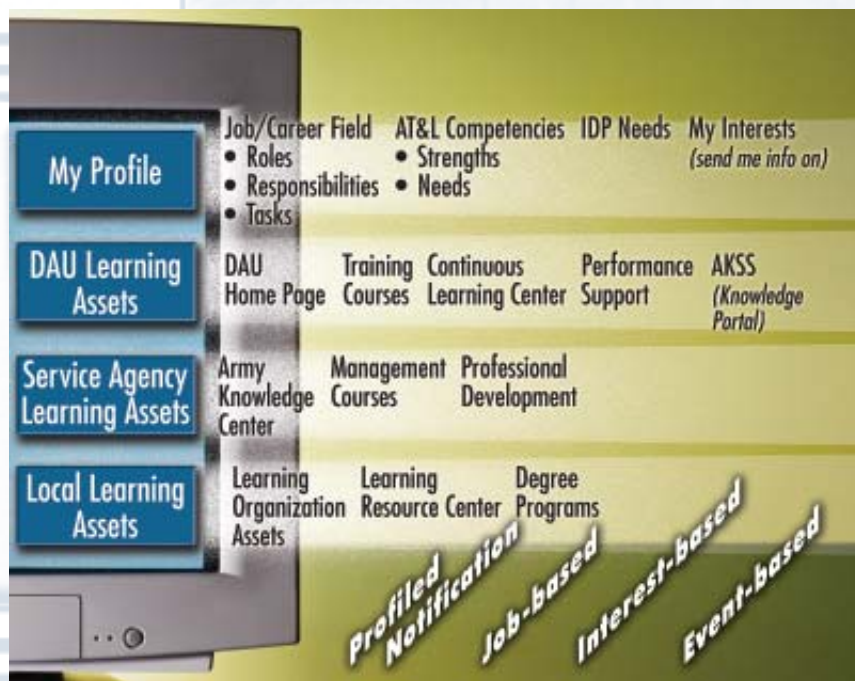
Our Vision for the Future

Information technologies will become even more critical to teaching and learning. Beyond basic literacy, digital literacy may become the single most important skill for both students and teachers. DAU library media specialists will continue to play a key role in working toward total digital literacy within the AT&L community.

Three characteristics of learning will define the future and embody the contextualized learning that the AT&L community will be able to access:

- 1. Organizational Learning:** What if we could take first-year managers and improve their competencies to perform like managers with 5 years’ experience? We can pinpoint which

On-the Job Learning at the Point of Need Portal



The DAU 2005-2011 Horizon

Learning Spaces

Competency-Based Learning

Mission Essential Tasks	Acquisition Management Game	Facilitation and Simulation Center	DAU Faculty KM Work Plans	Faculty Collaborative Workspaces	DAU Offerings on Handheld Devices	Foster Faculty DL Professional Development	Ft. Belvoir Library e-Partnerships
Learning Asset Digital Repositories (LEADR)	Acquisition Knowledge Sharing System (AKSS)	Communities of Practice (CoPs)	Acquisition Community Connection (ACC)	Outreach and Awareness Plan	Integrate CoPs Into DAWIA Courses	Migrate Online Courseware to SCORM 2004	

Technologies

Filtering the World of Data Overload

- Context Recognition
- Image Recognition
- Location Recognition
- Personal Filters

Data Trading

- Peer-to-Peer Architectures
- Regional Computing
- Multimedia Authoring Tools

Job Performance

- Content
- Context
- Learning Integration
- Speed to Readiness
- Personalized Searches
- RSS/Push Technology

Knowledge Transfer

- Digital Literacy
- Active Exploration
- Research Capability
- Point of Performance

New Data

- Multisensory
- Multidimensional
- Your career on a disk
- Reusable Learning Objects

Group Interfaces

- Sharable Displays
- Language Translations
- Privacy/Encryption

Simulations

- 2nd/3rd Generation
- Low Risk
- Collaborative
- Immersive
- Avatar/Gaming

Web Services

- Workflow Learning
- Application to Application
- Mobility
- Everytime, Everywhere

PLM

- Learning Architecture
- Developmental Strategy
- Structured Foundation
- Time to Value

Instant Messaging

- Performance Support
- Knowledge Sharing
- Collaboration

Mobile Learning

- Everytime, Everywhere
- One Digital World
- Seamless Mobility
- Personal Servers
- Interchangeability

INVENTING • GUIDING • INNOVATING • LEADING • PARTNERING • LEARNING

The DAU 2005-2011 Horizon

The horizon graphic is a snapshot of a multi-year representation of educational technology affecting DAU. It illustrates the major paths of emerging technology that will impact AT&L performance and juxtaposes them against a spectrum of leading-edge technologies. The fluidity of technology is represented by a landscape of "pathways and streams" that indicate the merging technologies flowing from learning spaces.

The Fusion of Learning and KM

Knowledge sharing figures prominently in *Performance Learning Roadmap—A Network-centric Approach for Engaged Learners*. We have gleaned several important lessons in integrating knowledge sharing efforts into the *Performance Learning Model (PLM)*, such as:

- Use metrics to encourage participation. A change in organizational culture is critical to create effective knowledge sharing. For example, at DAU, participation in CoPs is now one of the seven measures used to evaluate faculty.
- Define clear roles. DAU faculty members as subject matter experts for curriculum development and managers and editors of the CoPs are the drivers for our knowledge-sharing program. A core team of knowledge managers and support

personnel provides overall general management and helps the faculty sustain and develop knowledge communities. DAU top management provides the vision, funding, faculty time, and transformation processes to enable the PLM.

- Recognize a maturation process in learning and knowledge sharing. DAU sees learners as its key stakeholders and as primary sources of knowledge. Engaged learners become managers and editors in CoPs. To aid this maturation process, DAU gives these learners training in how to lead and manage their communities.
- Develop a comprehensive outreach plan. Outreach builds awareness of the knowledge-sharing programs and supports the CoPs. DAU created a comprehensive implementation and training guide that was used to launch the DAU CoPs.

Performance Support

Develop/Use Rich Site Summary (RSS)

Max ISD Use of Learning Assets

Online Info Module

CL Module: "Solving Business Problems Using Online Tools"

Continuous Learning

DAU Lessons Learned Capture and Access System

DAU Expert Finder System

Learning Asset Integration

DoD Software Best Practices Clearinghouse

Pilot Job Performance Skills Lab

Develop/Purchase Java-Based LCMS

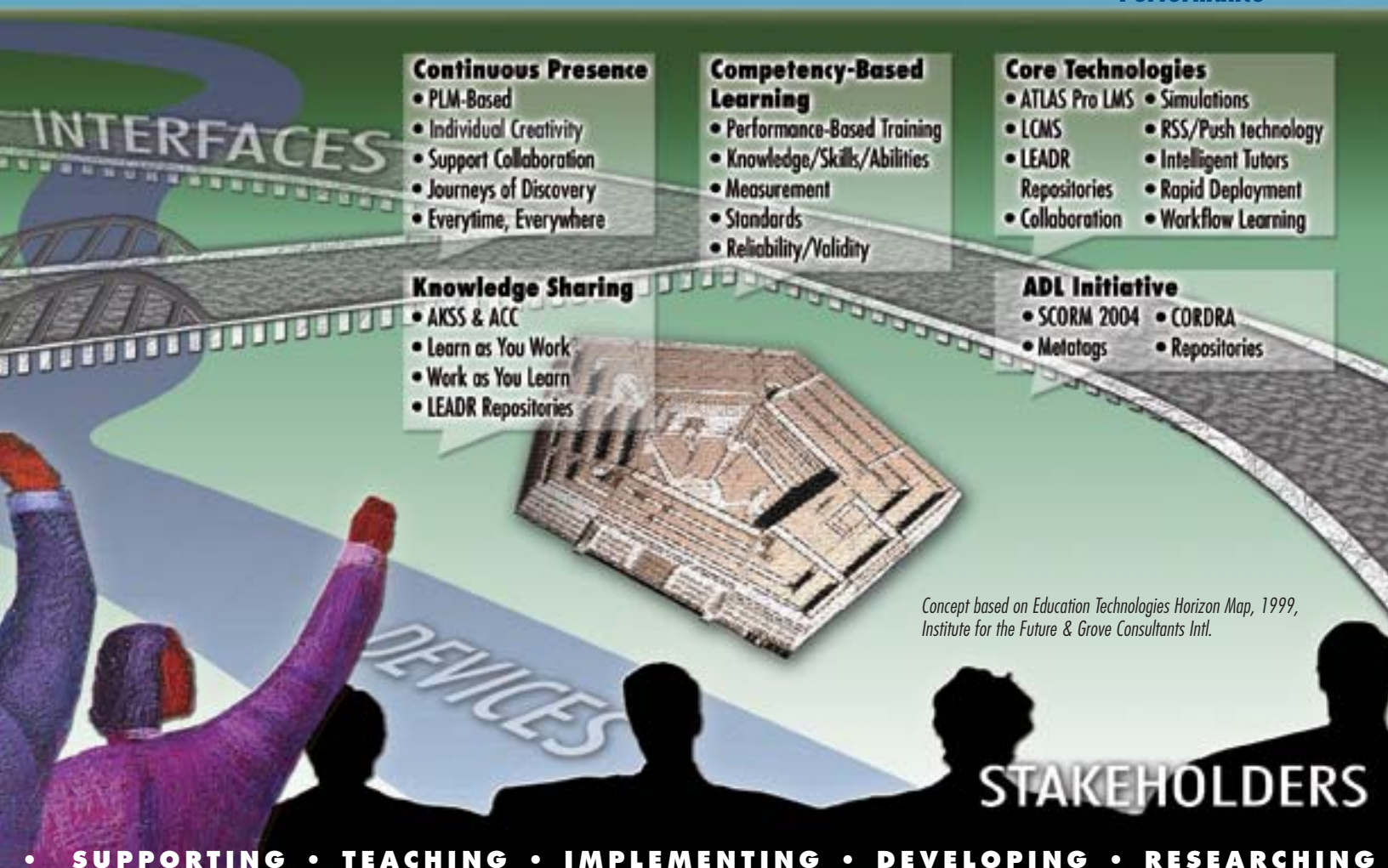
Collaborative Tool Suite

Enterprise Architecture

Atlas Pro LMS Improvements

Reduce Costs Through Partnerships

Online Courses Supporting Acq Reform CL and Job Performance



Concept based on Education Technologies Horizon Map, 1999, Institute for the Future & Grove Consultants Intl.

- Measure the results of your investment. DAU has created a comprehensive scorecard that measures such things as the number of registered users on the DAU Continuous Learning Center, which has risen from 72 to over 250,000 since June 2001, containing both private- and public sector-developed courses.

These initiatives not only improve the performance of people and their organizations, but also address the loss of corporate knowledge through attrition and retirement.

Technology Innovations

Connections—*The "Everytime, Everywhere" Infrastructure*
DAU learners—and their intelligent devices—will become increasingly interconnected. Hybrid fiber-coax cable systems and DSL offerings will bring broadband communications to a larger learning population as they expand across America. Wireless communication protocols will enhance seamless mobility and information access.

Devices—*The World of Smart Stuff*

Intelligent devices are no longer desktop or even portable computers. In today's world of ubiquitous computing, objects interact with each other seamlessly without a computer screen and input devices such as the keyboard and mouse.

Repositories—*The Democratization of Information*

The Internet will evolve into an increasingly inclusive data-storage system with information stored on devices distributed around the world. Data will extend beyond text and static images. DAU learners will take advantage of personalized home pages to ease the process of searching and navigating an ever-expanding universe of data.

Interfaces—*The Engagement of the Senses*

Interactions with intelligent devices and environments will use more than textual and graphical input and video display output. Speech input and multisensory output will make possible electronically constructed virtual realities.

experiences have more impact in getting people to the next competency level by creating learning experiences that leverage best practices to catalyze the skill requirements for a given role or area of responsibility. As the adoption rate of new information and best practices increases, we will have more success and greater value in supporting the warfighter.

2. Empowered Learners: DAU will improve its ability to define learning paths, assess value, and reward outcomes in support of overall organizational objectives, but AT&L learners and managers will have greater authority to determine what learning will most effectively enable them to make valuable and productive contributions to their organizations. This does not suggest that classrooms will go away; rather, in exchange for their time, our learners will expect classroom activities to provide exceptional learning experiences that cannot be acquired through other means.

3. Embedded Learning: The nature of work-embedded learning provides content-in-context. Work-embedded learning considers the individual's job role and experience level and is accessed as the individual performs work. It doesn't ask, "What am I going to teach you?" but "What work are you doing?" and "What do you need?" We can deliver learning that is embedded into the job and increase the consumption of learning in the AT&L community.



Future Enabling Technologies

Our early successes demonstrate that DAU has powerful ways of empowering individuals and fostering richer communication and effective collaboration. We are creating new information tools at DAU that will invest individuals with the keys to unlock a new community of ideas. Over the next several years, new technologies will include new online collaborative tools; a Learning Content Management System (LCMS); improved virtual classrooms; and Learning Asset Digital Repositories (LEADR) using CORDRA to tie them together, worldwide.

Instant Messaging and Presence Awareness: When it comes to electronic communication, IM is hot. According to a September 2004 Pew study, 42 percent of online Americans use IM. About 12 million adults send IM rather than e-mail. IM will continue to proliferate as a performance support technology. Once the domain of the Yahoo and America Online home consumer, it is fast becoming integral to corporate performance, knowledge management, and collaboration technologies.

According to a recent database development survey by Evans Data Corp., nearly a third of the 600 database developers surveyed indicated they update their analytical databases on an hourly basis. DAU updates both Army Training Requirements and Resources System (ATRRS) and Defense Enrollment Eligibility Reporting System (DEERS) personnel databases in real time through our LMS. With this "zero latency" process, there is no place for static courseware. Two enabling technologies that are being integrated with these real-time performance applications are IM and Presence Awareness.

Presence Awareness is the core technology used by DAU in its "Ask a Professor" feature found in our CoPs. Using this DAU technology, a project manager located in San Diego, working a complex project, can search for an expert at another facility to assist with the resolution of a difficult problem. Subject matter experts are available online to communicate critical information for problem resolution. Combine Presence Awareness with Really Simple Syndication (RSS) technology,

and you have functionality in which the project manager could automatically be notified of changes to DoD regulatory or course information that would affect his or her project. An RSS Reader will automatically filter and push information right to the desktop or handheld.

LEADR: Today, Web applications have to adapt to every vendor's proprietary application program interface (API) to interact with various content repositories. This has the negative effect of locking a large percentage of information assets in vendor-specific formats, limiting access to information, and impacting system evolution or migration and availability of third-party content management tools.

Our digital database repository, LEADR, will use content services, such as author-based versioning, full-text searching, fine-grained access control, content categorization, and content event monitoring. This API proposes that content repositories have a dedicated, standard way of interaction with applications that deal with content. It will focus on transactional read/write access, binary and textual content, full-text searching, filtering, observation, versioning, and handling of hard- and soft-structured learning assets.

Each of these technologies alone will enrich the AT&L educational process. Each gains additional strength when our learners can share resources over networks. When these technologies are fully integrated with each other, they will fuel an outpouring of new learning and workforce achievement. Powerful new technologies will transform how we deliver knowledge in the not too distant future and likewise transform our education and training.

Future Curricula Models

Using a variety of delivery platforms in conjunction with our state-of-the-art LMS, DAU will continue to design, develop, and deliver courses that are more interactive than traditional classroom-based experience and that provide more personal and timely feedback to meet our students' needs.

The vision and direction of the next generation of competency-based learning curricula at DAU include blended communications. Curricula will seek to stimulate interaction in person and using electronic media between students and the instructor, and among students themselves. Faculty will manage nonresident instruction and ensure that the dialogue and student interaction are consistent with well-defined learning outcomes. What will distinguish DAU is the purposefulness of our designers and developers in provoking intelligent responses to learning materials, the context in which they are presented, and our learning environment.

Future DAU learning models will design activities for students to interact with one another, even when geographically separated. Interpersonal interaction does not require real-time (synchronous) communication. Interaction among instructor and students can be independent of time and place (asynchronous). Future DAU e-Learning courses will use both, but with a greater emphasis on developing Asynchronous Learning Networks (ALNs) that we call online learning environments. Blended approaches combining asynchronous online and human-to-human communications will also be used wherever feasible.

Keeping an Eye on the Future: DAU Goals

Our vision for creating a network-centric environment for engaged learners ensures attainable goals:

- DAU will be *the* driving force for innovation and change in the AT&L community.
- Not only will DAU continue to add value, but we will continue to raise our customers' awareness of our services as our offerings extend beyond the traditional classroom experience.
- Our corporate mindset is that we are fully integrated in our learners' lives from the time they enroll in their first DAU course until they retire.
- DAU will identify the best available practitioner-faculty to provide learning experiences that are rooted in both expert theoretical and industry knowledge as well as teaching. This outstanding faculty will provide exemplary models for their audience of learner-practitioners.
- DAU will enhance its knowledge-sharing efforts by identifying a third important group of individuals: mentor-practitioners, a select group of learners who may serve as resources to support DAU courses, ad hoc support teams, and CoPs.
- DAU will embrace a vision that will contribute directly to the growth and development of our customers and the organizations for which they work.
- DAU will stand fast at the vanguard of learning innovation, continuing to encourage the development, support, and adoption of new technologies into smart business practices.
- Our commitment will be to meld current knowledge and practice, lessons learned, and innovation to ensure continuous improvement in all of our areas of influence.
- We will own the space where smart business training and technology intersect.

In support of these goals, we have identified a Mission Essential Task List (METL) of functionalities, standards, and supporting tasks that are critical for DAU mission success. This METL appendix is available in the online or CD version of *The DAU Performance Learning Roadmap—A Network-centric Approach for Engaged Learners*. See our Web site at <http://www.dau.mil>.



Delivering the PLM: Strategies for Engaging the Learner in a Network Centric Environment

DAU's primary learning model, the *PLM*, provides the framework for engaged learners to participate in a virtual environment in which knowledge assets are continuously accessible to the AT&L community—how, when, and wherever they are needed, and on whatever platform is being used (e.g., desktop, laptop, tablet PC, handheld device). This is the evolving definition of learning at the point of need.

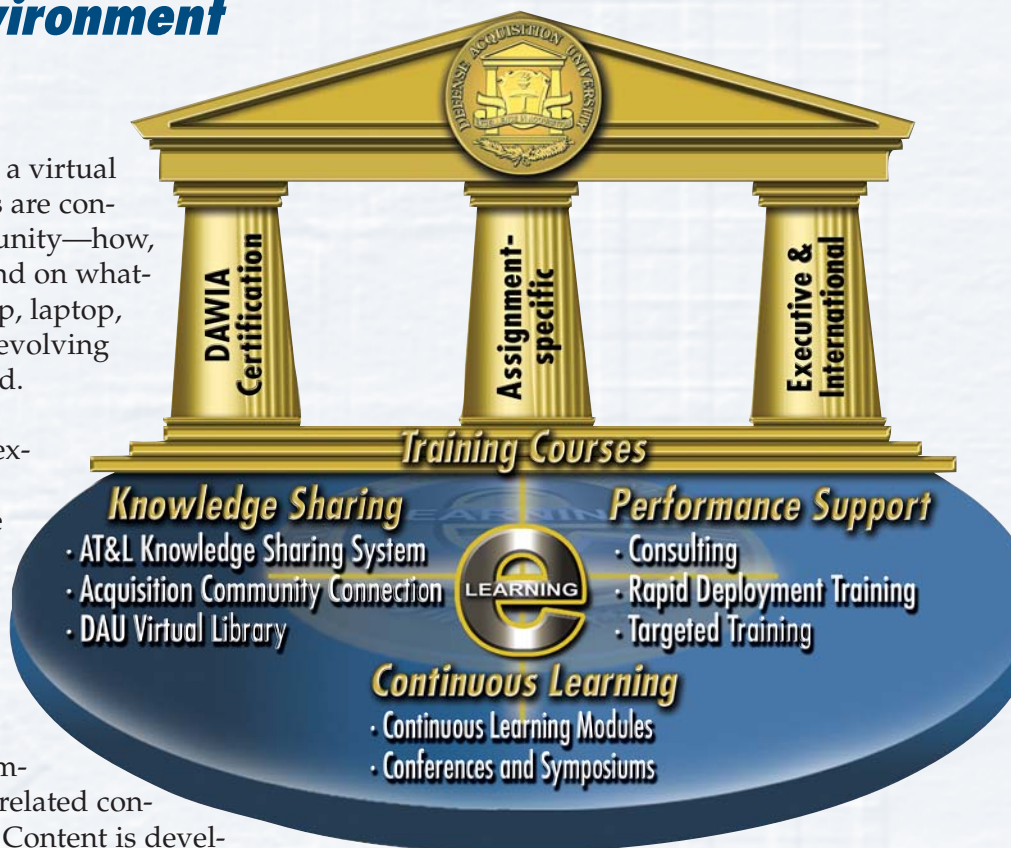
DAU has identified these strategies for expanding the use of technology-based learning and performance. Each of these has a descriptive section in support of *The DAU Performance Learning Roadmap—A Network-centric Approach for Engaged Learners* milestones. The *PLM* is composed of four parts:

Competency-Based Training: DAU's competencies are full-spectrum, acquisition-related content integrated in a practitioner context. Content is developed, managed, and revised by faculty who have a wide variety of experience with situational and functional specific problems in the AT&L community.

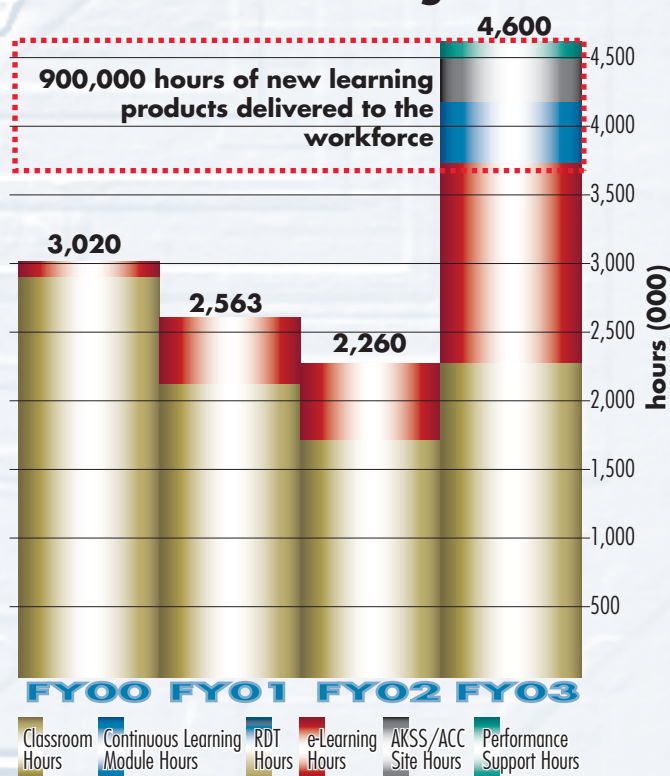
We are aggressively moving toward hard-hitting, shorter, competency-based courses focusing on core information; more assignment-specific and tailored courses; and shorter, modular executive training—all with improved use of in-class and online interactive and business simulations.

Knowledge Sharing: Our knowledge-sharing systems, include an expanded "ask an expert," ensuring continuous connectivity between our students and all DAU learning assets before, during and after training—so they stay engaged both as learners and on the job in the workplace. The AT&L Knowledge Sharing System (AKSS) offers an assortment of tools, templates, regulations, and news. The Acquisition Community Connection (ACC) offers authoritative information and collaboration with experts and peers, as well as providing a reach-back capability. The Acker Library and the Virtual Campus provide resources to the workforce 24/7. Each tool allows information to be captured and distributed in the appropriate context, at the point of need, and on demand.

Performance Support: DAU provides performance support services, including consulting, coaching, mentoring, rapid



Power of the Performance Learning Model



deployment training, targeted training, analysis, facilitation, and team collaboration support. These services are part of our 24/7 continuous presence. There is always a lifeline, ensuring a career-long performance learning environment for all career fields. Our consulting efforts target action learning outcomes, and targeted training includes on-the-job tutoring and business simulations. Rapid Deployment Training ensures that the workforce is kept well informed of breaking policy changes and new learning material.

Continuous Learning: Our online Continuous Learning Center and ongoing conferences and symposia ensure the AT&L workforce can receive ongoing training, tailored to suit their needs.

Our Continuous Learning Modules will emphasize interactive modules and workflow learning events (where work and learning merge). Embedding learning into the workflow can reduce the time needed for both training and informal learning. The support delivered will be job- or role-based. Learning will take place as a result of a learner's interacting with the DAU network-centric system. Work and learning will be simultaneous: learn as you work, work as you learn.

Strategic Partnerships: In addition to our content and content delivery infrastructure, DAU has numerous strategic partnerships with academia, industry, and other government organizations to help maintain leadership and a continuous presence. These strategic partnerships include certified course offerors, course equivalencies, DAWIA competencies, fulfillment, and degree-granting organizations—all for the benefit of achieving DAWIA certification, standards building, and *sustaining* exceptional performance.



"I believe the PLM is the premier organizational model for multi-national disparate organizations and individualized training."

*Admiral Edmund P. Giambastiani, Jr., USN
Commander, U.S. Joint Forces Command
North Atlantic Treaty Organization
Supreme Allied Commander—
Transformation*

DAU creates new and expanded career-long learning solutions by actively fostering partnerships with other organizations.



Competency-Based Learning

Individuals start their careers in the AT&L community with differing sets of competencies—the combination of knowledge, skills, and abilities (KSAs) needed to perform a specific task in a given context. This wide range of capabilities demands a flexible teaching plan that is based upon assessing students' individual prior knowledge and learning styles. DAU has developed courses that provide the community with functional and integrated training aimed at teaching core competencies.

DAWIA II (the streamlining of DAWIA) brought a new focus to providing flexibility to the AT&L community. Now, when choosing performance-based training and development activities to achieve the competencies identified for their jobs, our learners will target competencies, not courses.

Nearly everyone in the AT&L community will find a personal niche. Future DAWIA II revisions will add refinements and improvements. The purpose of this undertaking is (1) to provide definition to AT&L employees and their supervisors on the competencies required for them to perform their jobs at the entry, developmental management, and executive levels; (2) to give the community insight into the full spectrum of job requirements and career opportunities within AT&L, so they can better plan their futures; and (3) to enable the AT&L community to base its requirements on the essential needs identified by employees and supervisors.

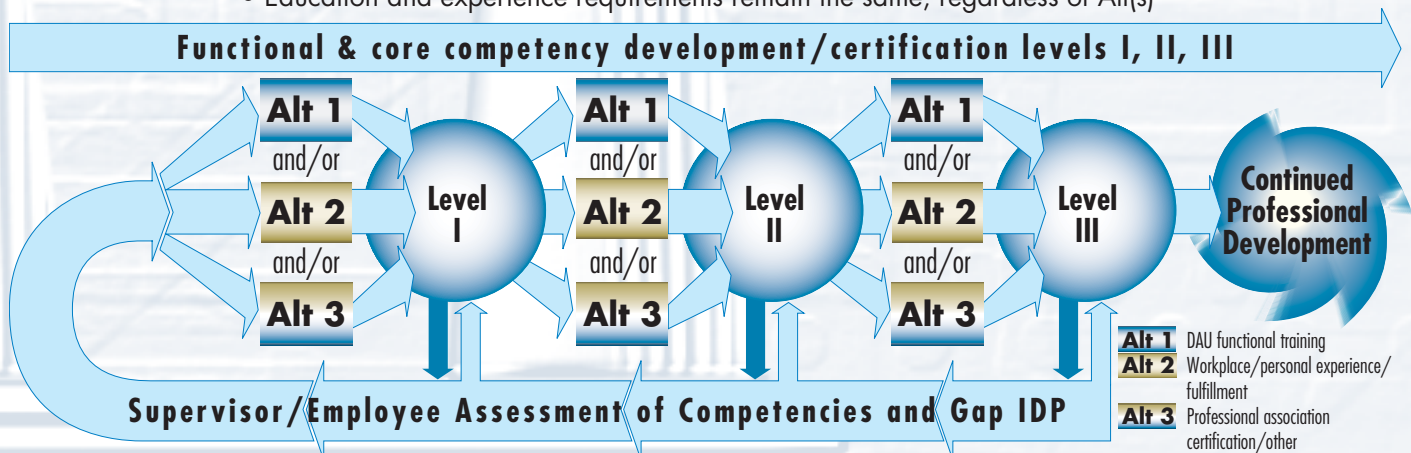


"The Defense Acquisition University is the vital link to ensuring that we have a trained and highly qualified workforce."

*Elliott Masie
The Masie Center*

Competency-Based DAWIA Certification Program

- Any alternative (Alt) can be used to achieve certification
- Combinations of Alts can be used to achieve certification levels
- Education and experience requirements remain the same, regardless of Alt(s)



Using Competencies

Competency-based learning seeks to ensure that students attain the critical KSAs for what they are studying or the performance levels for which they are preparing. Using competencies as a basis for the *PLM* requires the development of three distinct, but interactive components:

- Competency descriptions
- Means of measuring or assessing the competencies
- Standards by which someone is judged to be competent.

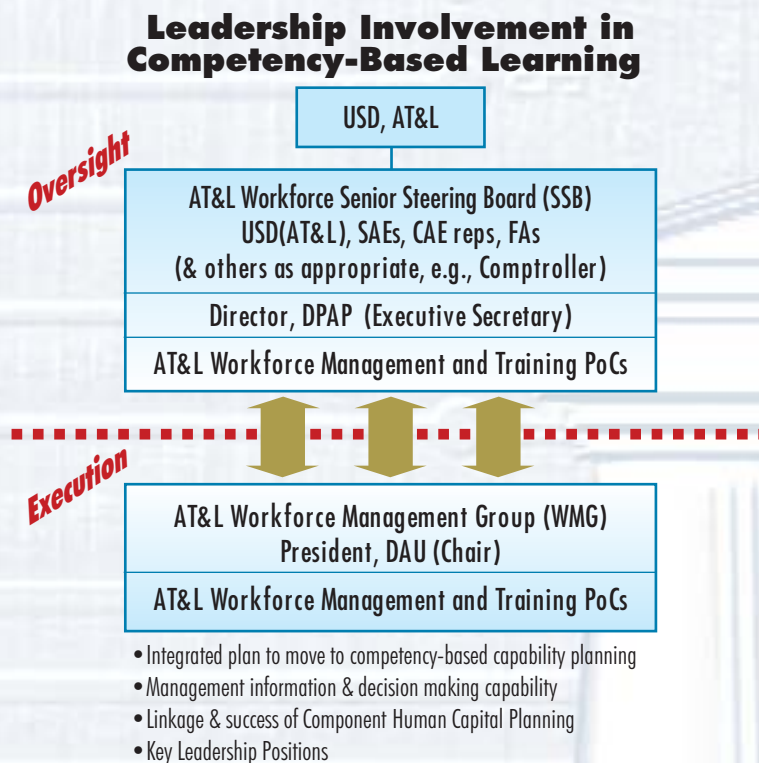
Certification of individual achievement of functional competencies will be demonstrated through one of three tracks: DAU functional training; individual workplace experience; and alternative sources for certification, including equivalent professional associations and organizations. AT&L functional advisors will continue to establish competencies and other requirements for each career field in each of the three certification levels: Basic (Level I), Intermediate (Level II), and Advanced (Level III).

DAU will continue to work with AT&L stakeholders on the DAWIA II initiative, to enhance the implementation of competency-based learning in the AT&L community. The AT&L senior leadership through a Senior Steering Board oversee all AT&L workforce and human capital initiatives.



“Competency-based learning will be enhanced through DAU advanced portal technology that enables AT&L employees to access learning assets at the exact moment that they need the information.”

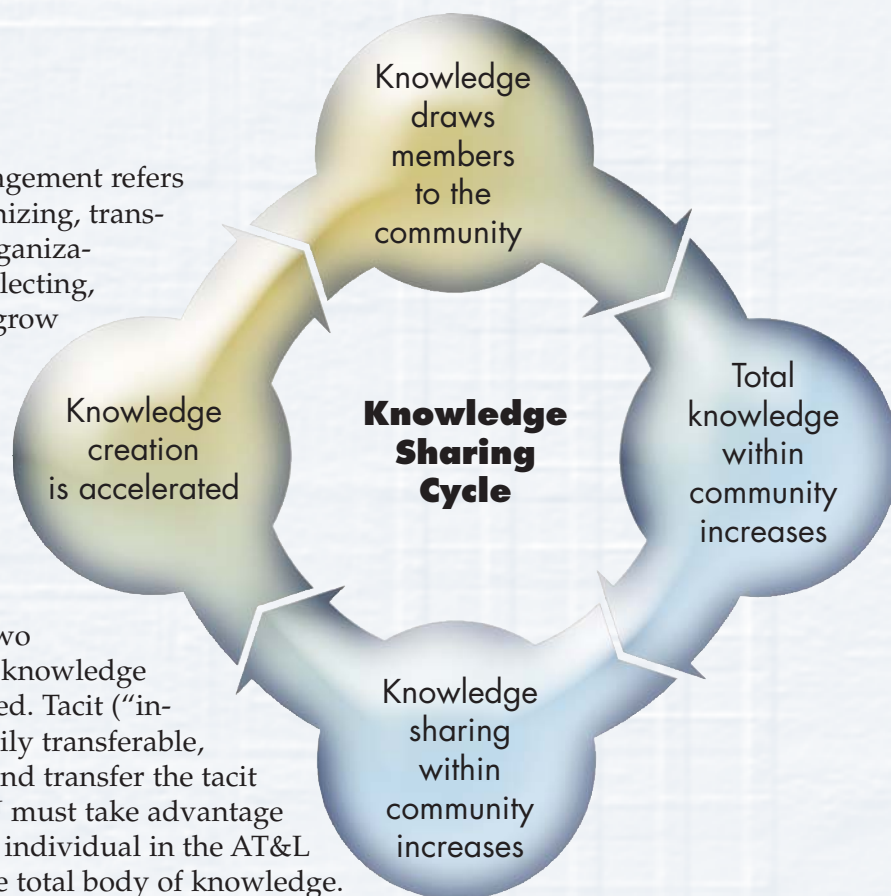
James McMichael, PhD
Vice President, DAU



Knowledge Sharing

The traditional definition of knowledge management refers to the processes of creating, capturing, organizing, transferring, and using knowledge to enhance organizational performance. While the technology for collecting, storing, and accessing information continues to grow exponentially, the ability to effectively and efficiently use this information remains one of the most important managerial challenges organizations face today. The need to foster human interaction, collaboration, and knowledge sharing in the workplace is both a challenge and opportunity.

Knowledge in organizations manifests itself in two forms—explicit and tacit. Explicit (documented) knowledge can be easily articulated, captured, and transferred. Tacit (“in-our-heads”) knowledge is intangible and not easily transferable, and therein lies the problem: How do we share and transfer the tacit knowledge that resides in an organization? DAU must take advantage of both explicit and tacit knowledge so that each individual in the AT&L community can quickly and easily draw from the total body of knowledge.



Knowledge Sharing: An AT&L Imperative

Our major challenge and goal is to facilitate knowledge sharing. One of the common knowledge gaps in a community is how to capture experiential learning for key business practices. Thus, we are often faced with the frustration of reinventing the wheel when working with these practices. Without a formal process for capturing and documenting what was learned, such knowledge can't serve as an input for the next project or query.

Another gap occurs when one needs information quickly and asks the question, “Who is the expert in this area?” or “Whom can I talk with to get that information?”

The third gap is the integration of knowledge sharing so that content does not manually arrive after the point of need, but rather when the work suggests it.

Reducing these knowledge gaps is a major key to performance and effectiveness. DAU is broadening its support to the community by creating a continuous-presence service environment, and developing the necessary resources for self-service, customized/personalized learning and knowledge sharing. The attention DAU is focusing on modularizing and integrating learning assets (explained in the LAI chapter on page 27), and cultivating a knowledge-sharing environment sets the stage for a more relevant and valuable learning experience for the community.

Knowledge sharing fundamentally anchors organizational productivity for both DAU and the AT&L community. Based on our experience with CoPs, we have realized that value creation in these knowledge sharing communities is a continu-

ous cycle. This effect is increased when members cross-pollinate by participating in multiple communities, such as program management and logistics.

Knowledge Sharing Resources Provide a Continuous Presence

DAU offers a wealth of resources that provide the AT&L community the whole package of explicit and tacit knowledge.

AKSS: The AKSS is the central repository for acquisition policy and reference materials. AKSS replaced and improved upon the legacy Defense Acquisition Deskbook system by employing a strategy that leverages valued sources of explicit knowledge, developed and constantly maintained by the Office of the Secretary of Defense (OSD), the military services, and the agencies. AKSS includes comprehensive libraries of policy/reference documents, AT&L Web sites, guidebooks/handbooks, software tools, glossaries/acronyms, and online knowledge communities. A high-end search engine allows users to choose among the various libraries and search within results to find knowledge quickly. The AKSS also includes the legacy “Ask A Professor” function and database of frequently asked questions and professors’ answers.

ACC: The ACC is the collaborative tool for the AT&L community, where members can contribute local knowledge and interact with other practitioners. The ACC provides discretionary practices, whereas the AKSS’s major function is to provide mandatory policy and references. The ACC’s goal is to connect practitioners with know-how across all DoD organizations and industry, conveying and capturing the experiential knowledge in people’s heads. ACC is still in its early stages, but it promises to be a significant force in stimulating collaborative thought among acquisition practitioners and promoting more collaborative ways of doing business. It is also proving to be a major facilitator for Joint, OSD, Service, and agency integration and sharing, thus minimizing costly knowledge development and duplication in stovepipes.

Best Practices Clearinghouse: The Best Practices Clearinghouse (BPCh) will provide brief, useful descriptions of practices and their characteristics based on carefully analyzed data. Users can access the information according to their preferences and needs. The BPCh will also provide the trail of evidence used to establish the characteristics, as well as advice on where to find out more detailed information. With this information, the BPCh will be a single source for identifying, selecting, and implementing validated acquisition-related practices based on specific program needs.

The BRITE Program: When an organization learns from the experiences of others, it greatly reduces both the time required to move up the learning curve and the



cost of improvement. In other words, learning organizations should be keeping a weather eye on the latest developments elsewhere and adapting benchmarks accordingly.

Our plan to align and continuously improve business processes and infrastructure to support DAU strategic objectives is called the “Benchmark Review and Innovative Technology Evaluation (BRITE) Program.” The BRITE Program assesses the current state, activity, and emphasis of innovative technology in learning organizations and industry training departments and makes recommendations for use at DAU.

Library Support for AT&L Engaged Learners

The mission of the David D. Acker Library and Learning Resource Center (LRC) is to support the curriculum of DAU and the research, consulting, and professional development of the AT&L community by:

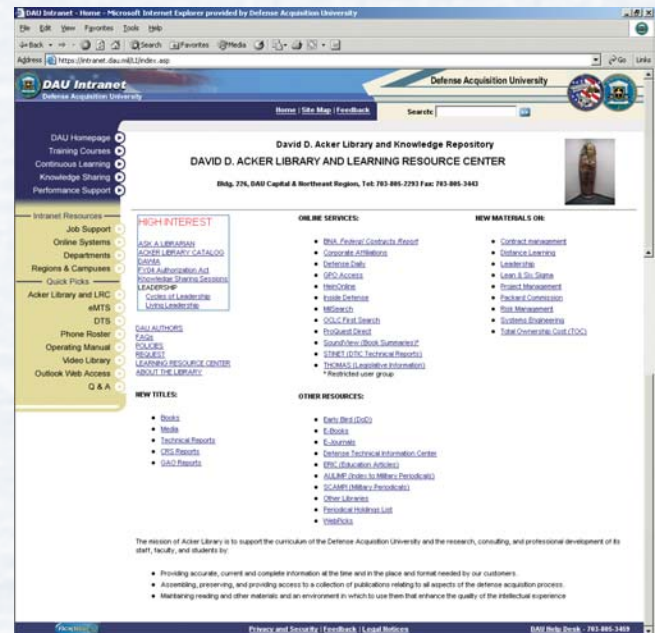
- Providing accurate, current, and complete information at the time and in the place and format needed by our customers
- Assembling, preserving, and providing access to a collection of publications relating to all aspects of the defense acquisition process
- Maintaining reading and other materials and an environment that enhances the quality of the intellectual experience.

The growth of e-Learning has posed new challenges for library services. Online learners and traditional learners now have access to a universe of digital information through the Internet and classified networks. New information and communications technologies, as well as new educational models, require librarians to re-evaluate the way they develop, manage, and deliver resources and services.

What do nonresident learners need from DAU librarians? Online learners may not have equal access to the physical collections nor face-to-face reference/research assistance; hence, the goal of equity makes it necessary that the library provide them with services that are more “personalized” than might be expected on campus.

DAU librarians assert themselves as key players in the learning process. They are transforming themselves from “information gatekeepers” to “information gateways.” DAU leadership also advocates librarian involvement in learning communities, where the librarian can shift the focus from explaining library resources to meeting the ongoing information needs of the students in the broad information environment.

DAU librarians work at translating what they do in a traditional library into virtual or digital environments, while customizing their services and resources for learners. To serve learners connected to the Acker Library primarily through a computer network, DAU librarians are providing remote access to, and electronic delivery of, library resources and are using communications technologies to deliver electronic reference services and instructional support.



In the traditional model, a librarian provides a bridge between learners and information providers by selecting and cataloguing resources and by providing assistance with these resources. In the *PLM* model, the Acker Library serves as a facilitator by offering ongoing support, enabling learners to interact and exchange knowledge with others, to communicate directly with the publishers and vendors of information resources, and to participate in a collaborative endeavor to make available rich collections of online scholarly information resources.

The Landscape of Library Resources

Technology offers the learner opportunities to be innovative but not all e-learners have equal access to computing equipment; the availability, speed and stability of Internet connections; or the information skills that are needed to make optimum use of virtual libraries. So access to print-based library materials continues to be important.

Managing the remote access and authentication issues involved in making digital resources available has become a significant area of support to users of our library. Access problems are frustrating for online students, and are generally resolved quickly through the DAU Help Desk. DAU learners also benefit from having a variety of means of contacting the library, including e-mail and a toll-free telephone number.

A focus on collaboration between the library and the faculty promotes a responsive approach to course design. It supports teaching and learning objectives, particularly when this collaboration incorporates student contributions and feedback. The library also offers support to learners and can mentor their work by offering one-to-one communication and interaction, achieving a deeper level of understanding of what learners need.

From a research perspective, DAU is responsive to the scholarly information needs of our diverse group of learners. DAU librarians locate, select, and describe quality Internet resources, and provide access to full-text journal databases and electronic book collections. Within this framework, the Acker Library works with faculty, researchers, scholarly societies, and publishers in developing and managing a collection of enriched online scholarly resources. Such a partnership enables researchers to interact with others, exchange experiences, and publish their works online.

The library's role is thus transformed from simply being a provider of library resources. Our librarians meet the ongoing support needs of the AT&L knowledge community by serving as navigators through the universe of online information—identifying pertinent resources; verifying the authenticity and authority of the source, expediting access; and assisting with techniques and protocols.



The Role of Faculty and Staff In Knowledge Sharing

DAU faculty and staff play an essential role in fostering a knowledge sharing environment. DAU plays a pivotal role in helping communities with behavioral change by raising awareness of the resources available to support the community, providing exposure to tools, and developing the collaborative skill sets the community will need in the future. DAU recognizes the need to facilitate the evolution of community members to learner practitioners.

Each DAU employee will play an important role in creating the culture and environment where sharing and collaboration become second nature. This allows DAU to leverage the full power of its faculty and subject matter expertise to improve the quality of its services to the AT&L community. The potential value to the community is immense. Knowledge becomes an integral part of the life of the communities—the people in the best position to take stewardship of it.

Expected Outcomes for Knowledge-sharing Initiatives

With the successful execution of DAU goals, the AT&L community can expect tangible results. In 2 years, the AT&L community will be able to access:

- Comprehensive knowledge bases and expertise through CoPs spanning all AT&L-related functions and special interest areas
- Policy, suggested best business practices, and supporting knowledge resources through interactive policy documents and guidebooks, such as the *Defense Acquisition Guidebook* (DAG) interactive system
- All DAU learning assets in DAU's Learning Asset Digital Repository, similar to the Massachusetts Institute of Technology's Open Campus
- DoD/industry knowledge repositories through National Defense Industrial Association-sponsored and DAU-supported functional communities, which provide best practices and lessons learned on key processes
- DoD organizational spaces, such as the Huntsville Acquisition Learning Organization and others, that provide access to major command and systems command knowledge assets.

In 3 to 5 years, we will be able to:

- Support key leadership positions with personal learning spaces in the ACC
- Access tools and automated processes to support development of all required milestone documentation as outlined in the Joint Capabilities Integration and Development System (JCIDS); DoD 5000 regulations and directives; and Planning, Programming, Budgeting, and Execution System (PPBES) policies
- Provide AT&L workforce members with personal AT&L portal capability intelligent agents for tailored access to AKSS, ACC, DAG, BPCh, and DAU learning asset repository resources
- Access rehearsal scenarios for critical AT&L processes.

Top Ten Agile Practices

1. A standard software base
2. Central control and accountability for costs
3. Repeatable processes for project management
4. A flexible software architecture
5. A standardized development platform
6. A fluid balance of internal employees, contractors, outside consultants and outsourcers
7. A flat organizational hierarchy
8. Flexible, short-term provider contracts
9. Flexible, quickly deployable teams
10. An optimal balance of flexible versus fixed operating costs.

Performance Support

Part of shaping a culture that promotes career-long learning is to ensure that members of the AT&L workforce receive performance support throughout their careers. DAU provides learning far beyond the classroom scenario and competency training; we provide an enduring link that continues to meet the informational needs of the community as the need arises. Performance support services include consulting, coaching, mentoring, rapid deployment training, targeted training, analysis, facilitation, and team collaboration support.

Consulting

DAU offers consulting in the functional areas of program management, contract management, systems engineering, funds management, logistics management, earned value, manufacturing management, software management, and test and evaluation. Information on other topics, such as dispute resolution, strategic planning, and problem solving is also offered through guides, magazines, books, and other training materials.

Consulting services are provided by DAU's seasoned faculty. Our faculty has extensive acquisition program experience, education, and training to provide the right solutions at the right time to solve individual, project, and agency acquisition problems.

As part of our strategic partnering with industry, DAU now offers a Program Start-up Workshop to facilitate better government and industry teaming after contract award on defense acquisition programs. The 3- to 5-day workshop is tailored to match the specific needs of each program and is conducted jointly with government and industry teams. Ideally held 2 to 4 weeks after contract award, the workshop provides training on essential start-up activities and creates an environment of teamwork, communication, and trust. Because it is based on best practices of successful programs, the Program Start-up Workshop helps to attain successful program execution.

For team collaboration and complex problem solving, DAU offers a Management Deliberation Center (MDC), located at our Capital and Northeast Region Campus at Fort Belvoir, VA. The MDC is a state-of-the-art facility designed for group collaboration and complex problem solving and is available to DoD and civilian agencies for strategic planning, team building, brainstorming, and other facilitated interventions. Trained facilitators help plan and implement an organization's performance-support requirements.

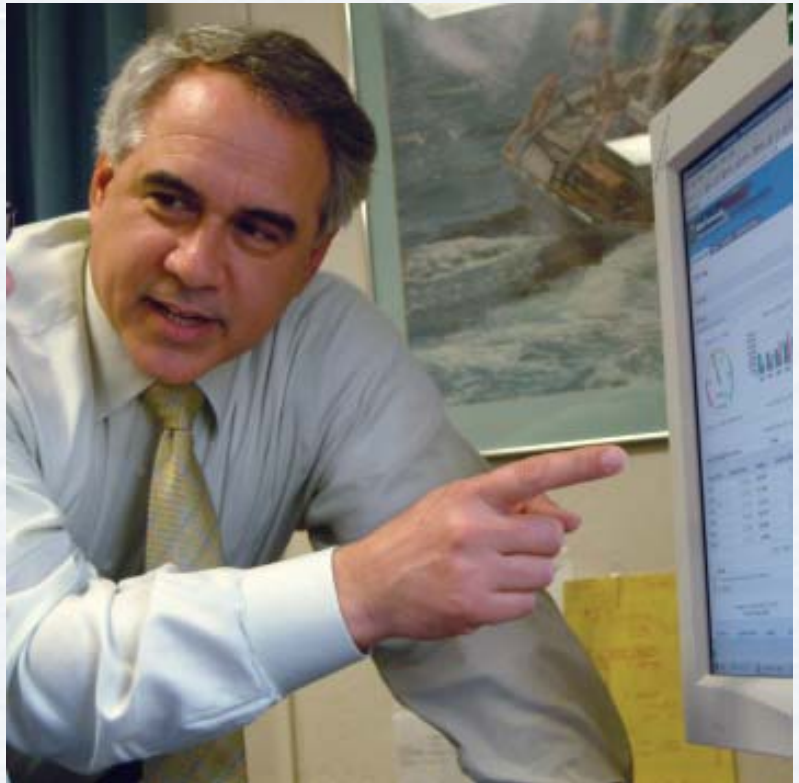
Rapid Deployment Training

In response to the accelerated rate of change to acquisition policies, procedures, and best practices, DAU has established a Rapid Deployment Training (RDT) capability. By quickly focusing attention on high-value initiatives, DAU is able to



develop and deliver targeted training to large numbers of the acquisition workforce soon after an initiative is implemented and in parallel with changes to core curricula courses. When policy changes, teams create new learning material and place it in a digital repository within 5 days of the change. With this initiative, the workforce has near-real-time access to changes that affect their jobs. RDT is provided through all available media, including classroom training at the regional campuses, continuous learning modules, and local sessions.

A few notable examples of RDT are DAU's participation in organizing and rapidly deploying training for the AT&L workforce in response to significant changes to the Defense acquisition system documents DoDI 5000.1 and DoDD 5000.2; the ongoing effort to provide training on the new Chairman Joint Chiefs of Staff Instruction 3170.01C (Joint Capabilities Integration and Development System); and training on the recent unique identification program that will significantly improve efficiency in moving supplies to warfighters and facilitate item tracking.



DAU is planning the use of management game environments and simulation tools.

Stimulation through Simulation

Learners are steadily migrating away from courseware-based e-Learning and adopting next-generation, real-time performance support, embedded in context. Simulation is the most dominant characteristic of second-generation learning content.

Unlike solutions that focus on workforce performance, simulations are becoming a collaborative process integrated with several other business processes. They are the by-product of real-time collaboration with people and machines in the context of performance. Traditional instruction is seen as cumbersome, inefficient, and costly in terms of time and money. The learning process that first requires skills and knowledge transfer, followed by subsequent on-the-job training, is inefficient. It is not a question of instructional effectiveness; it is just incompatible with real time workplace performance. DAU is planning the use of management game environments and simulation tools in the new eLTC Innovation Lab to bring second- and third-generation learning to our community.

Continuous Learning

To support point-of-need learning, DAU is evolving our Continuous Learning (CL) programs to capture the golden nuggets of performance support or just-in-time training. We will offer lessons or portions of certification courses to deliver the right training, at the right time, and potentially satisfy future competency requirements.

DAU's Continuous Learning Center

The DAU Continuous Learning Center site facilitates the ability of the AT&L workforce to achieve 80 hours of continuing education and learning every 2 years. These Web-based, self-paced learning models support workplace learning needs worldwide.

In FY04, the CLC goal was to provide the AT&L community with the latest information on acquisition initiatives and policy updates by increasing the number and utility of CL modules. We have succeeded. DAU currently offers more than 90 such learning opportunities, including online, self-paced modules with assessments and certificates, awareness presentations, and streaming video modules.

CL modules are offered on key topics such as the Government Purchase Card tutorial, (shown right) Performance-Based Logistics, Cost as an Independent Variable, as well as links to modules from the Air Force, Navy, the General Services Administration, and industry. The CLC is available to the AT&L community, industry, educational institutions, and other government agencies. The CLC links to video streaming network sites and Web pages established for rapid deployment training initiatives. It provides an active source for distribution of emerging policy information to the entire AT&L community. Recent examples of this capability were the immediate link to the new DoD 5000 regulatory Web site when the documents were released in May 2003, and the link to the Chairman Joint Chiefs of Staff (CJCS) training manifests in June 2003. CL modules are also contributed to appropriate CoPs in the ACC.

The DAU CLC also provides performance support via “no-login-required” browsing of courseware material and a searchable content structure. Users can browse CL modules from their desktop or mobile device, find the relevant information they need, and return to work.

To simplify the DAU experience for all AT&L learners, we are consolidating the CLC within the Virtual Campus. This will eliminate one set of log-ins and passwords and will consolidate student transcripts for both continuous learning and online courses. The use of new educational technologies will serve to foster the removal of similar boundaries imposed on traditional learning.



Instituting Workflow Learning

The goal of workflow learning is to optimize business performance. It employs “smart” software to guide, inform, and assist workers.

Workflow Learning is characterized by:

- Task and work support embedded in real-time workflow
- Real-time collaboration with people and systems
- Learning and performance nodes modeled with business process modeling tools
- Short, granular bursts of learning and performance support embedded at specific nodes of a business process
- Dynamic generation of on-the-fly tasks as work evolves
- Continuous performance improvement and automated performance measurement
- Personalized delivery, management, and routing of tasks and task support.

Workflow Learning will reduce the time needed for tasks and business processes, thereby increasing productivity and cutting costs. Embedding learning into the workflow can reduce the time needed for both training and informal learning. Workflow Learning applications integrate with enterprise applications to link performance issues or questions with organizational data, support tools, regulations, or our learning assets. The support delivered will be job- or role-based. Learning will take place as a result of learner interaction with the DAU network-centric system. Work and learning will be simultaneous: learn as you work, work as you learn.

By leveraging Workflow Learning and Web Services, DAU learners will increasingly be unleashed from the classroom and even the desktop, as learning becomes available through a variety of mobile and hand-held devices. Our learners can and are working anywhere in the world—from Baghdad to Guam. Mobile personnel require mobile learning.

Conferences and Symposia

As part of its continuous learning and information dissemination mission, DAU sponsors or supports numerous conferences and symposia nationwide. Among the major events hosted by DAU each year at Fort Belvoir are the PEO/SYSCOM Commanders’ Conference, the PM Workshop, the DAU Alumni Association Symposium, and the Innovations in e-Learning Symposium.

The Defense Acquisition University Outreach and Communications (O&C) program is dedicated to ensuring the AT&L community is made aware of new acquisition initiatives and the products and services DAU makes available to support the AT&L workforce. The DAU O&C Plan outlines the objectives of the program, the resources necessary to meet these objectives, the means by which O&C activities can best be accomplished, and indicators by which to measure the performance of the program.

Learning Asset Integration

DAU provides career-long professional support through the products and services offered in the AT&L *Performance Learning Model (PLM)*. A major near-term DAU strategy is to integrate and leverage our learning assets generated by the elements of the *PLM*, maximizing the value of all assets to the AT&L knowledge worker.

Defining Learning Assets

Learning assets range from small objects, such as the graphic representation of an acquisition process, to a large online career field community of practice (CoP) and its body of knowledge. Learning assets cover the full spectrum of internal and external sources:

- Learning objects and courses developed by DAU's authoring tools
- Classroom course presentations and information artifacts
- Continuous learning modules/courses
- Rapid Deployment Training materials
- Targeted training materials
- Performance support materials used in consulting
- DAU and DoD guidebooks and handbooks
- Policy and reference documents
- Case studies, best practices, lessons learned, automated templates and tools
- Knowledge communities, special interest areas, and contributed objects
- Student developed studies, reports, lessons learned
- Faculty business cards with identified areas of expertise (from the Human Resources Management (HRM) database)
- Assets in the ADL digital repositories of DoD-sharable learning objects



LAI Brings Value to the AT&L Community

Learning Asset Integration is the capturing, organizing, life-cycle management, and open access to a broad spectrum of centralized learning assets.

DAU must integrate its learning assets to help our AT&L practitioners:

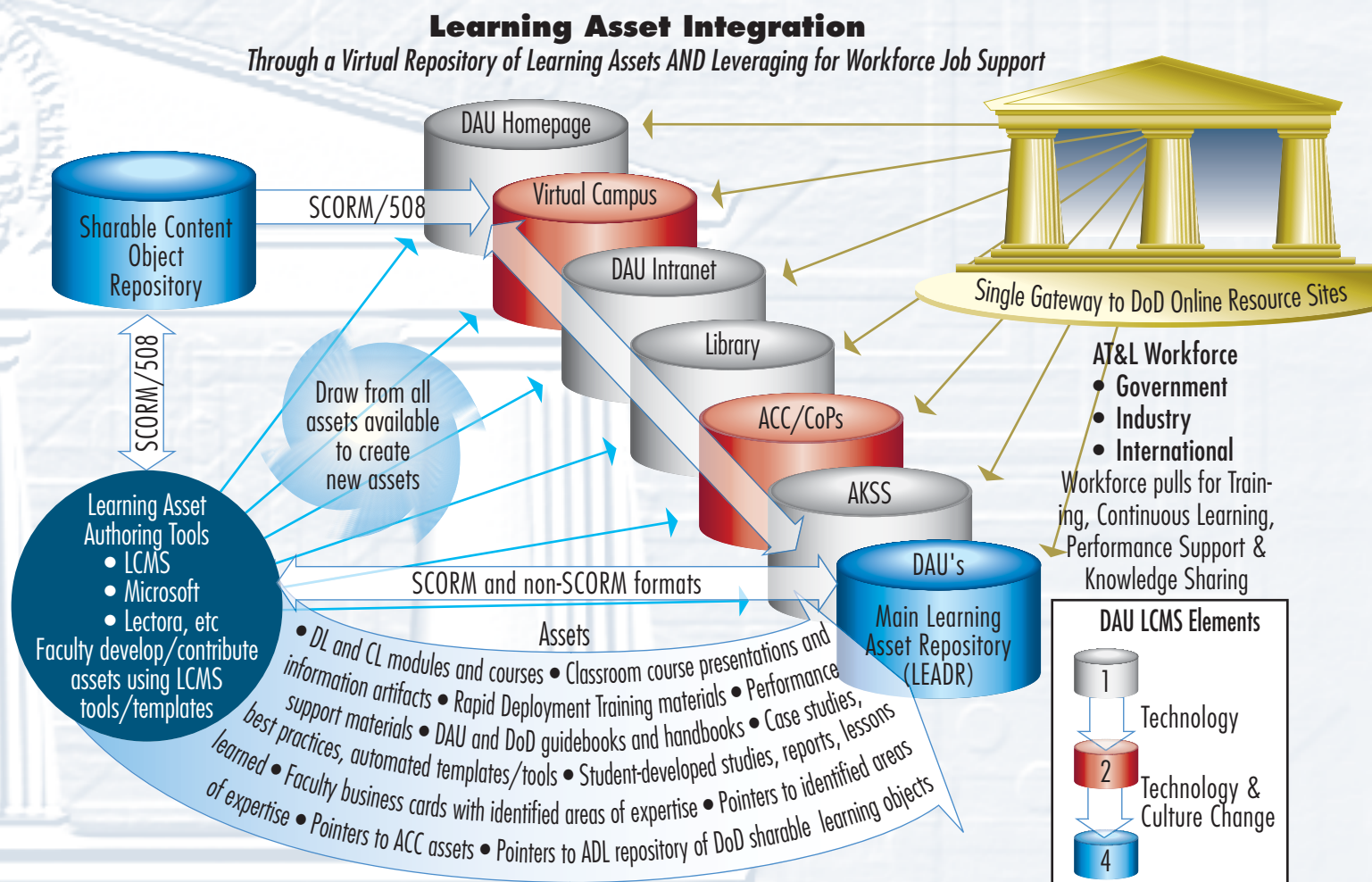
- Leverage and maximize the value of all *PLM* products and services
- Provide the most accurate and current knowledge available in all *PLM* products and services
- Enrich the activities and content in courses and course modules
- Minimize the cost of development and maintenance through asset reuse
- Help the AT&L knowledge worker develop career qualifications and competencies
- Maintain professional currency
- Do their jobs more efficiently in real time;
- Make smart business decisions
- Support both DAU's learning vision and support new DAWIA II competency-based training.

Technology and LAI

The AT&L community can access these knowledge objects anytime and anywhere in support of a classroom course, as job aids at work, or in support of continuous-learning activities. The reusable knowledge objects in the digital repository will also be accessible through other mechanisms, such as workflow performance learning tools, knowledge document gateways, and CoPs.

Technology plays a major role in facilitating the efficient capturing, organizing, management, and appropriately controlled access to learning assets.

- **DAU Virtual Campus**—The DAU Virtual Campus is the backbone that provides the AT&L community with access to online certification courses and continuous learning modules. More than 30 certification courses are hosted on the LMS, providing students with worldwide, 24/7 access to their course materials, modules, and instructors. Of the 94,000+ FY05 graduates of DAU courses, nearly 70 percent are accessing their certification training online via the Virtual Campus, and one of the benefits is that after they have completed their online course(s) they will have reach-back access to the latest course materials for use as on-the-job resources.
- **Learning Content Management System**—DAU's new LCMS will play a major role in developing content and learning assets, in addition to providing a user-friendly learning asset repository used to organize, capture, describe and manage DAU's learning assets throughout their life cycle. It is imperative that the asset development tools enable faculty and staff to fully manage assets without relying on technical support personnel. Advanced tech-



nology in the form of automated templates and process wizards will help support this requirement.

- **DAU Web sites**—DAU's various Web sites support about 2 million page hits per day, arguably making it the busiest educational site on the Web. Existing and new integrated tools (content contribution in CoPs, discussion groups, search, online group systems, Voice Over Internet Protocol (VOIP), IM, etc.) will be the access windows and collaboration tools for the AT&L community. Advanced technology will be used to personalize support to the community and minimize the time necessary to find required knowledge and expertise.

LAI: Practical Applications

In classroom-based courses, course managers will launch their course materials from the DAU learning asset repository. If an appropriate online knowledge community exists, students are made aware of this community and invited to join, use the community's knowledge repository, or participate in collaborative activities.

Students will be able to develop research papers using the extensive DAU online resources available to them. Student-generated research papers can be captured in the learning asset repository by the course manager, thus contributing to the knowledge community. Students will use collaborative Web workspaces to work specific learning activity assignments, mine appropriate knowledge, capture threaded discussions, analyze case studies, and prepare presentations for class discussions.

When a new course is being considered for development, the learning asset repository is searched by the Course Development Team for previously developed course content, either entire courses or parts of courses (learning objects). A search of all learning assets is made to determine what supplemental assets are available that would preclude developing new content.

After course completion, minor changes to course materials are made by course managers through the LCMS authoring tools, and updated courses or modules are stored in the learning asset digital repository. The updated learning assets are automatically updated and accessible for job performance support by the entire AT&L workforce (government and industry) through multiple access systems and products in the *PLM*.

Countless scenarios exist where LAI pays off for other forms of professional development training, continuous learning, rapid deployment training, targeted training, performance support consulting, personalized learning, and organizational learning constructs.

FY05 e-Learning Reach

Continuous Learning (CL) Web-based certification training (DL)

5,792 US OCONUS Users } 76 foreign
5,716 U.S. 1,243 US OCONUS Users } 171 foreign

91,569 Foreign and US CONUS Users 76,013 Foreign and US CONUS Users

01/01/97-10/20/04

10/01/97-10/01/04

220,853 registered users in 116 countries* 123,440 total web graduates in 45 countries*
*not all countries displayed

India
CL US: 3
DL US: 1

Taiwan
CL Foreign: 19

Guam
CL US: 205
CL Foreign: 1
DL US: 22

Philippines
CL US: 1
DL US: 3
DL Foreign: 7

Singapore
CL US: 10
DL US: 5
DL Foreign: 3

Thailand
CL US: 7
CL Foreign: 2
DL US: 7
DL Foreign: 2

Australia
CL US: 2
CL Foreign: 16
DL US: 1
DL Foreign: 12

American Samoa
CL US: 10
DL US: 1

Honduras
CL US: 24
DL US: 1

Cuba
CL US: 33
DL US: 28

Puerto Rico
CL US: 134
CL Foreign: 2
DL US: 1

Argentina
CL US: 10

Brazil
CL US: 3

Ghana
CL US: 3

Uganda
CL US: 4

Saudi Arabia
CL US: 25
DL US: 7
DL Foreign: 2

Qatar
CL US: 21
DL US: 4

Virgin Islands
CL US: 41

Algeria
CL US: 19

Morocco
CL US: 1
DL US: 1
DL Foreign: 4

Spain
CL US: 26
DL US: 17
DL Foreign: 7

Portugal
CL US: 2
DL US: 1

Italy
CL US: 305
CL Foreign: 1
DL US: 74
DL Foreign: 11

France
CL US: 1
CL Foreign: 1

Belgium
CL US: 102
DL US: 8
DL Foreign: 2

Greenland
CL US: 4

Iceland
CL US: 33
DL US: 2

United Kingdom
CL US: 262
CL Foreign: 5
DL US: 68
DL Foreign: 11

Netherlands
CL US: 41
CL Foreign: 1
DL US: 17

Luxembourg
CL US: 5
CL Foreign: 1

Germany
CL US: 1,513
CL Foreign: 5
DL US: 341
DL Foreign: 34

Yugoslavia
DL US: 10
CL Foreign: 3

Greece
CL US: 13
CL Foreign: 3
DL US: 3
DL Foreign: 2

Turkey
CL US: 108
DL US: 7

Iraq
CL US: 29

Bahrain
CL US: 35
DL US: 9
DL Foreign: 2

Afghanistan
CL US: 57

Israel
CL US: 5
DL US: 3
DL Foreign: 7

Kuwait
CL US: 88
DL US: 3
DL Foreign: 4

Egypt
CL US: 6
CL Foreign: 2
DL US: 1
DL Foreign: 4

United States
CL US & Foreign: 91,569
DL US & Foreign: 76,013

Canada
CL US: 8
CL Foreign: 9
DL Foreign: 2

US Minor Outlying Islands
CL US: 574
DL US: 14

Marshall Islands
CL US: 7
DL US: 7

South Korea
CL US: 934
DL US: 195
DL Foreign: 9

Japan
CL US: 921
CL Foreign: 1
DL US: 221
DL Foreign: 45



DAWIA
Certification

Assignment-
specific

Executive &
International

Training Courses

Knowledge Sharing

- AT&L Knowledge Sharing System
- Acquisition Community Connection
- DAU Virtual Library

LEARNING

Performance Support

- Consulting
- Rapid Deployment Training
- Targeted Training

Continuous Learning

- Continuous Learning Modules
- Conferences and Symposiums