



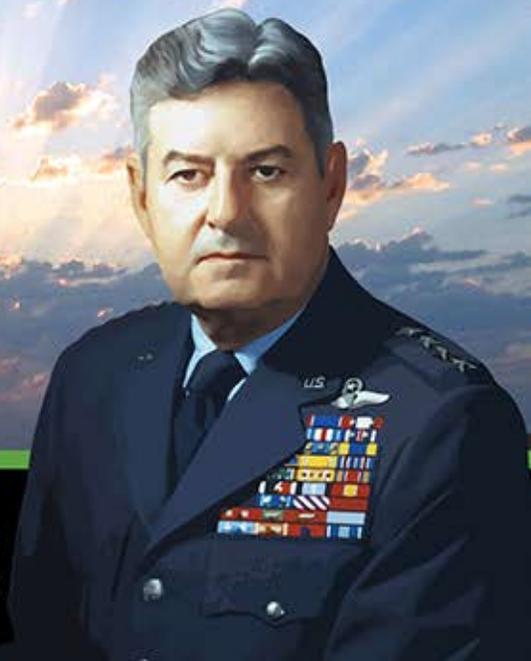
The Redesigned Air Force Continuum of Learning

Rethinking Force Development for the Future

Lt Gen Darryl L. Roberson
Commander, Air Education and Training Command

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The LeMay Papers

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Introduction

The *USAF Strategic Master Plan* posited five strategic vectors to help prioritize investments, drive institutional change, and operationalize key concepts. These included providing effective twenty-first-century deterrence; maintaining a robust and flexible global intelligence, surveillance, and reconnaissance (ISR) capability; ensuring a full-spectrum capable, high-end focused force; pursuing a multidomain approach to the Air Force's five core missions; and continuing to pursue game-changing technologies. Arguably Air Education and Training Command (AETC) supports all of these vectors; however, the call for a full-spectrum capable, high-end focused force falls squarely within the AETC mission. AETC was tasked with preparing for the future, yet much of what we deliver under the banner of *force development* is lodged in a learning paradigm that has not altered substantially since the creation of our service.

The *Human Capital Annex* states

World class application of airpower requires a highly specialized and competent workforce developed through deliberate training, education, and leadership experiences. The development of a technically competent Airman can take years and, as such, the Air Force must take steps to leverage and retain that investment. It is imperative that we develop a holistic strategy for attracting, recruiting, developing, and retaining the right Total Force Airmen that meet the needs of the Air Force in a cost effective way. . . .

The need for Airmen who possess the right occupational skills and institutional competencies forms the core requirement of force development. Where occupational competencies are required to build technical depth, the Air Force's institutional competencies are key to ensuring the ability of Airmen to operate successfully in a constantly changing environment at the tactical, operational, and strategic levels.¹

In this article, we will briefly review the disruptive forces that are driving change across our Air Force, share some insights into how our sister services are reacting to similar pressures in terms of their force-development strategies, review what our senior leaders approved, and describe how we are moving ahead with this new, force-development paradigm. This new approach will eventually affect every aspect of force development, so it is important that all Airmen understand what we are doing and why we are doing it.

A Call for Change

We anticipate four emergent threats that will drive “profound and rapid change over the next 20 years: geopolitics; natural resources; challenges to the global commons; [and the] speed of technological change.”² These threats,

coupled with resource constraints, the age of our Air Force platforms, the fact that our service is rebounding from its lowest numbers in its entire history, and the realization that our force-development strategies differ very little from those of the past all combined into a wake-up call for senior leaders. Our Air Force requires innovative solutions to deal with these new challenges.

One should not assume from this discussion that the future is merely a collection of recurring and emerging threats. Embedded within this dynamic environment are exciting opportunities as well. Technological advances are enhancing Air Force capabilities in many ways. Partnerships between military, industrial, and academic entities are lighting the way to new innovations in dozens of mission areas. Further, the strategic context has the potential to reinvigorate alliances and to bring new partners to aid the United States in making the world a safer, more peaceful place. Yet the threats remain, and as our mission is to fly, fight, and win for our nation, we must remain vigilant to America's security needs.

We must also remain vigilant to the unique needs of our learners. Today's Airmen come to us far more technically savvy than their predecessors. They have grown up in a world where information is ubiquitous—available anywhere, anytime, and quite literally at their fingertips. They have come to expect tailored learning experiences that meet their needs when and where those needs arise. Their ability to absorb information quickly and to apply it immediately provides a great opportunity in terms of agility—an opportunity we must leverage as we reinvent force development for our Air Force.

Yet, it is equally important that we continue to meet the needs of our more traditional learners. The needs of our Total Force require that we be alert to the different levels of access and competing time demands confronting our Airmen. Workforce revitalization is predicated upon our ability to reach our Airmen—all of our Airmen—in meaningful ways and enrich their talents, skills, and knowledge even as they are giving so much of their time and efforts in service to our nation. It is a challenging context for achieving desired learning outcomes.

Other aspects of our context are the priorities introduced by the Secretary of the Air Force, Dr. Heather Wilson, in August 2017.³ Every one of the five priorities—restore readiness, cost-effectively modernize, drive innovation, develop exceptional leaders, and strengthen alliances—is directly related to the way in which we develop our Airmen to fly, fight, and win.



Figure 1. Air Force senior leader priorities

These also capture CSAF Gen David L. Goldfein's intent to revitalize Air Force squadrons and strengthen joint and multidomain war-fighting leaders and teams.⁴ Lastly, these address the recent Secretary of Defense (SecDef) call for increased force readiness and lethality.⁵



Figure 2. Gen David L. Goldfein, 21st Chief of Staff, US Air Force

The Air Force is not alone in facing the challenges and opportunities of the contemporary context. In his testimony to the House Armed Services Committee in June 2017, SecDef James Mattis noted the Department of Defense must “be prepared to deal with technological, operational, and tactical surprise, which requires changes to the way we train and educate our leaders and our forces.”⁶ The depth and breadth of emergent threats and the potential of existent opportunities have driven all of the US military services to reconsider their operating concepts.



Figure 3. SecDef Mattis testifies before Congress

In 2011, the US Army published its TRADOC Pamphlet 525-8-2, *Army Learning Concept for 2015*, calling for an entirely new model for Army learning. Recently, the Army published an updated pamphlet, *US Army Learning Concept for Training and Education for 2020–2040*, focused on a learner-centric approach that creates lifelong learners through the use of technologically enhanced training, top-notch instructors, and outcomes-focused curricula—all delivered using a variety of mutually supportive modalities.⁷

The Navy has also taken up the challenge of reinventing learning. The Sailor 2025 program outlines the Navy’s strategy for human-capital management and force development, encompassing 43 initiatives aligned to three major lines of effort: personnel system modernization; enriched culture; and ready, relevant learning (RRL). The RRL initiatives include career-long learning delivered through modern methods; better instruction to replace the traditional industrial, pipeline training model; and mobile learning—available anywhere and at any time—and all leveraging cloud-hosted, advanced learning technologies.⁸

The Marines are equally attuned to the need for learning reform. Their Training and Education Command (TECOM) is implementing significant developmental reforms, including small unit decision-making and instructor professionalization initiatives. TECOM is leveraging advanced educational technology to create a Marine Corps Synthetic Training Environment that will ensure ample learning opportunities are readily available across a Marine's career.⁹

So, the Air Force is not alone in recognizing the need for change, nor are we alone in implementing transformations. Through the Defense Advanced Distributive Learning Advisory Committee (DADLAC), the Military Education Coordination Council (MECC, providing oversight for officer joint professional military education [JPME]) and the Enlisted Military Education Review Council (EMERC, providing oversight over enlisted JPME), as well as through direct interactions and personal relationships, the services are staying very attuned to one another's progress and sharing successes and even developmental/implementation costs where and when it is feasible to do so.¹⁰

Past efforts to implement such holistic changes have failed largely as a result of our Air Force's success in being the most effective air force in the history of the world. The prevailing wisdom has been "why change?"



Figure 4. Do current military might and prowess undermine calls for innovation?

Making the Case for Change

The current service initiatives are not an admission that we no longer hold the lead position in terms of military might and prowess; however, it is clear to our leaders that the rest of the world is catching up. Further, the breadth of challenges means US fighting forces may be called upon to achieve critical

security objectives across a range of operational areas simultaneously. That requires a tremendous level of agility—intellectual *and* operational agility! Workforce revitalization, increased cognitive complexity, and expanded intellectual agility are absolutely necessary for our success in the future. So the answer to the question “why change” is simply “because we must.”

As we noted previously, we started this almost two years ago. Following the issue of the *USAF Strategic Master Plan* and *Human Capital Annex*, the Air Force conducted a detailed analysis of the existing force-development paradigm, coming up with dozens of recommendations as to how we might leverage state-of-the-art innovations in learning theory and educational technology to improve learning for our Airmen.

By late 2016, we had floated several papers and briefings describing the realm of the possible—how we might proceed. In February 2017, we presented a proposal to reinvent the Air Force learning paradigm at CORONA-South. Convinced of the need and confident in the approach, the initiative was approved for implementation.

In short, the initiative consisted of five, interlinking innovations, all designed to forge more creative, intellectually agile, resilient, and competent Airmen for our Air Force. The five initiatives are:

1. **Modularized learning**, which is the process of breaking courses and programs down into small, easily “consumable,” chunked learning. Instead of signing up for multimonth programs of instruction, Airmen should be able to focus on the specific learning area(s) they need, achieving learning when and where it is needed.

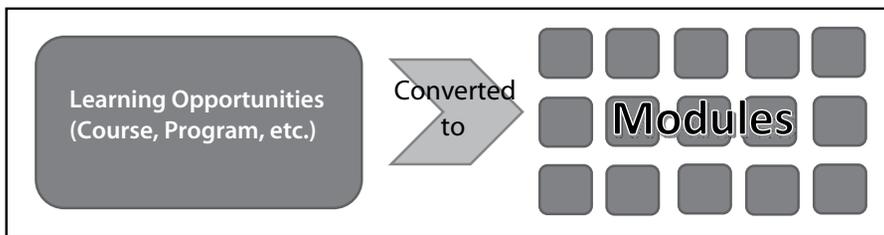


Figure 5. Modularized learning—breaking large learning experiences into smaller, more easily mastered modules

2. **Blended learning** is meeting learning objectives through multiple learning modalities (face-to-face, facilitated, and self-paced online, self-study, simulations, games, exercises, group projects, etc.). For instance, instead of single learning experience consisting of only face-to-face learning, a blended experience combines modalities to maximize learning effectiveness.



Figure 6. Blended learning—combining modalities to maximize learning effectiveness

3. **On-command and on-demand learning.** On-command learning represents the learning the Air Force requires for Airmen to achieve some level of expertise. On-demand learning represents the learning Airmen desire to achieve personal and professional learning objectives. Combined with modularized learning, this concept supports the Air Force’s goal of creating and supporting lifelong learning.

4. **Competency-based learning** is an outcomes-based approach focused on competencies that ultimately results in a form of credentialing, such as certification or badging. Competencies exist within the Air Force today. The Institutional Competency List identifies those general competencies that are applicable to all Airmen, such as leading, communicating, and so forth.

Table 1. The Air Force Institutional Competency List. (Adapted from LeMay Center for Doctrine, “Annex 1-1, Force Development: Appendix: Institutional Competency List,” 17 April 2017, <https://doctrine.af.mil/download.jsp?filename=1-1-D06-Appendix-1-Competency.pdf>.)

Category	Competency	Subcompetency
Personal	Embodies Airman Culture	<ul style="list-style-type: none"> • Ethical Leadership • Followership • Warrior Ethos • Develops Self
	Communicating	<ul style="list-style-type: none"> • Speaking and Writing • Active Listening
People/Team	Leading People	<ul style="list-style-type: none"> • Develops and Inspires Others • Takes Care of People • Diversity
	Fostering Collaborative Relationships	<ul style="list-style-type: none"> • Builds Teams and Coalitions • Negotiating
Organizational	Employing Military Capabilities	<ul style="list-style-type: none"> • Operational and Strategic Art • Leverage Technology • Unit, Air Force, Joint, & Coalition Capabilities • Non-adversarial Crisis Response
	Enterprise Perspective	<ul style="list-style-type: none"> • Enterprise Structure and Relationships • Government Organization and Processes • Global, Regional, and Cultural Awareness • Strategic Communication
	Managing Organizations and Resources	<ul style="list-style-type: none"> • Resource Stewardship • Change Management • Continuous Improvement
	Strategic Thinking	<ul style="list-style-type: none"> • Vision • Decision Making • Adaptability

There are also occupational competencies specific to certain Air Force Specialty Codes (AFSC) or positions (see fig. 7). Although seldom referred to as “occupational competencies,” these are often identified as “skills” or “qualifications” and serve identical purposes. For example, the “Letter of Xs”

used in flying units details skills and credentials specific to pilot qualifications. Similarly, within the AFSCs, there are specific tasks related to levels of proficiency that correlate well to competency-based learning.¹¹ So, the Air Force uses competencies to some degree now. Our intent for the future is to expand this usage and to employ competencies as a “common currency” between the three “marketplaces” of education, training, and experience. Competencies mastered in experience will not have to be tackled again in education and vice versa.

Institutional vs Occupational Competencies

Although competencies come in many shapes and sizes, much of the literature on CBL talks about “institutional” and “occupational” competencies. Institutional competences are those that are cross-cutting, affecting every member of an organization. In the case of the Air Force, the institutional competences are specifically aim at leadership-development, describing the skills and knowledge necessary for growth as an Air Force leader. Occupational competencies are specific to technical specialties or unique requirements. A learner might master competencies in a variety of occupational areas but the institutional competencies are central – common to all who are members of the institution.

Figure 7. Institutional versus occupational competencies

5. **Airman’s Learning Record (ALR)** is a comprehensive record of all learning Airmen achieve during the course of their career. Currently, Airmen’s learning is documented in multiple record systems, including educational transcripts, training records, performance reports, and ancillary training transcripts; there is presently no mechanism for tracking competencies. The ALR will provide a one-stop shop to record accurately what Airmen know and can do.

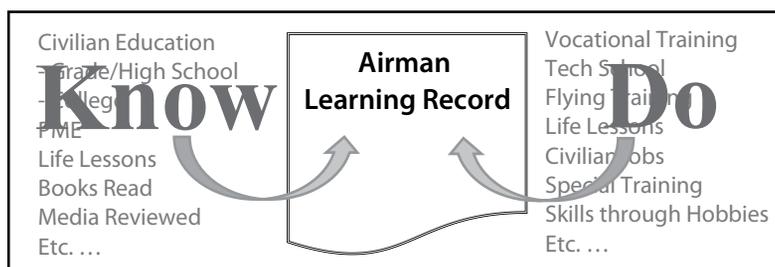


Figure 8. The Airman Learning Record

Combined, the five, interlinking innovations that comprise the redesigned Continuum of Learning will change fundamentally how we develop the force. They innovations will allow us to be more agile, by equipping Airmen with skills and knowledge when and where they need it but will also help us to create and sustain lifelong learners.

These are wonderful improvements but will require a great deal of work. Frankly, as hard as it seemed, getting approval at CORONA was the easy part! Implementing this holistic change to our force-development paradigm is much, much harder. Fortunately, we have a great team of instructors, teachers, staff members, and leaders who have embraced the challenge and are stepping out smartly.

In early August, we met with all of the senior leaders in AETC—all of the numbered air force and wing commanders and their command chiefs. We laid out the components of the redesigned Continuum of Learning, talked in depth about how we would implement, looked at some early successes, and then challenged them to accelerate their efforts—even offering cash incentives for innovations.



Figure 9. The AETC Senior Leader Summit on the Redesigned Continuum of Learning. US Air Force Lt Gen Darryl Roberson, commander of Air Education and Training Command (center), sits with Maj Gen Mark Brown, AETC deputy commander (left), and CMSgt Juliet Gudgel, AETC command chief (right), during the Continuum of Learning Summit 1–2 August 2017 at Joint Base San Antonio–Randolph, Texas.

We are also updating our Command Strategic Plan. We are anchoring the redesigned Continuum of Learning implementation to ensure all of our metrics will move us toward full utilization.

Additionally, we have taken note of some *early adopters*—organizations that have embraced redesigned Continuum of Learning concepts to enhance their force-development offerings. These early entries provide evidence of the power of these innovations and also sources of expertise that others can consult in modifying their own offerings.

The innovation that is most foundational to our future success, however, still lies in our future. Our Enterprise Learning Services ([ELS], part of our Information-Technology Service Provider [ITSP]) team, consisting of a variety of experts from across the command, is building a learning ecosystem on which all of these innovations can ride. It will provide a platform for courseware design, development, and delivery; handle surveys and assessments, including formal testing; and provide a complete suite of student-management support services. These include enrollment, registration, transcribing, and so forth.

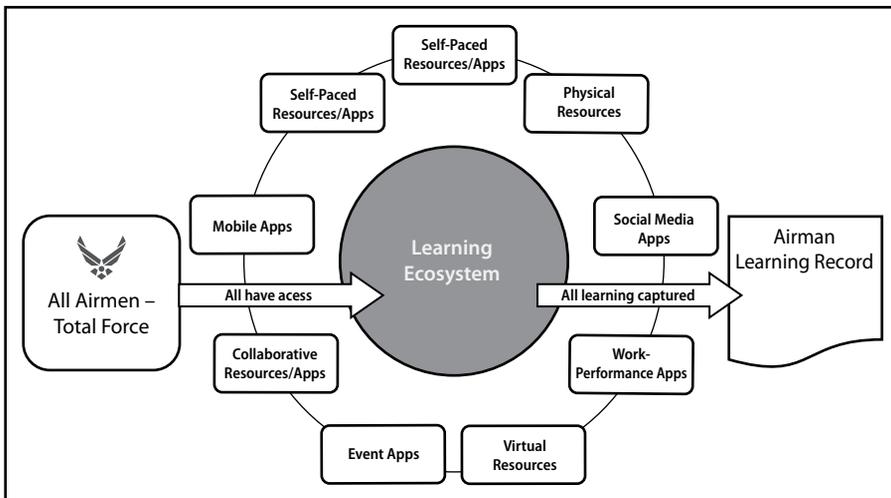


Figure 10. The New Air Force learning ecosystem

What is unusual about our team’s approach is the way they have incorporated agility into the basic architecture of the learning ecosystem. Instead of purchasing specific systems that would lock us into certain approaches and

require vast resources to maintain and update, the team is embracing agility. It has created a protected enclave on the cloud in which the ecosystem will reside. Within that ecosystem, various systems become available, riding on the ecosystem as *applications* (apps). Airmen will be able to access all of the apps to which they have privileges through their ecosystem licenses, and every Airman will have a license. Our goal is to have this accessible via .com and .edu domains and via the SIPR and NIPR nets—ubiquitous learning opportunities, ready access to advanced educational technology, and all connected to the ALR to track the learning that is achieved. That’s exciting!

Still, as exciting as this is, it is just another step on this journey. It is going to be a long, demanding voyage but it is the end state—the possibilities that lie before us—that keeps our team so motivated about the trip. In order to move out, we are going to change the way that we, as Airmen, think about learning.

In the past, learning was an interruption into our work: “We interrupt this career for some schooling!” There will still be times when Airmen need to join a class, but even that may be different. Instead of going away to a school, Airmen will be able to complete some synchronous learning requirements with a “TDY in place.” We are leveraging this in one of our tech-training programs already, and it is producing remarkable results.

Perhaps more important is that a lot of learning will move from the classroom, the self-study, or the online course right to the “point of need.” If Airmen need to reference the learning materials specific to a given task or requirement, they will find it on their personal devices, whether at work or at home studying for an upcoming task or assignment.

Where to Enact Change

One desired location for expanded learning opportunities is the Air Force squadron. This correlates to Gen Goldfein’s emphasis on revitalizing Air Force squadrons, which he wants to be the centerpieces of Airmen’s service. He wants Air Force squadrons to be places where Airmen bond, learn, lead, develop, sustain the Air Force culture, and have fun together. Consequently, he is enthusiastically supporting our efforts to move more learning opportunities into the squadrons.

Using modularized learning, available anywhere and anytime, we can make learning opportunities readily available within squadrons; however, there is one piece that we cannot replicate: human interaction. This is critically important to this revitalization effort.

We know from leadership theory that strong bonds are created within the learner–teacher relationship. In fact, were we to ask, “Who in your life, other

than a blood relative, has had the greatest impact in terms of the value structure that guides you through life,” chances are it would be a teacher—not necessarily a classroom instructor but certainly someone who saw something in you and gave of their personal time and talent to make you better. The Air Force needs teachers, mentors, coaches, and guides like this. Our Airmen need them more.

So, we are looking for Airmen who are willing to become teachers within their squadrons. We will provide content and training; the volunteers will take the content and their teaching skills to help other Airmen be more effective in their jobs and more committed to their Air Force. We are already providing some instructor training within enlisted professional military education. We are going to reach a lot more as we stand up virtual training opportunities. If this is something that appeals to you, we would like to hear from you. We will talk about how you can reach us at the end of this article.

Even with a massive number of trained teachers, it is unlikely that we will have sufficient expertise to teach every subject using local talent. We need alternative learning opportunities; we need Airmen to be able to teach one another as they venture into new subject areas and tackle new learning challenges. We will meet this need through collaborative learning.



Figure 11. Learning through collaboration—face-to-face and online

Within the new learning paradigm, Airmen will be connected with other learners and experts in a collaborative forum that allows them to ask questions and get support from others. For younger Airmen and those who have embraced the ready collaboration available in social media, this will simply mark the Air Force’s “catching up with the times.” For most of the older generation, however, this is the beginning of a new age of connectedness for Airmen. It is the ability to “crowd source” answers to troubling issues, to gain invaluable insights from experts who have “been there and done that,” and even to commiserate with other Airmen who have had to recover from setbacks and reconsider their approaches to overcoming obstacles. This, however, is only the start. Where else might we go in the future?

Innovations

One innovation that will leverage collaborative learning in areas where there is an absence of local expertise are our developmental special experiences (DSE), which are immersive learning experiences that place Airmen into situations where they can experience the full gamut of real-world events specific to desired learning outcomes. For instance, if the Air Force needs air operations center (AOC) expertise, sending Airmen to actually work in a functional AOC might be invaluable in imparting the necessary knowledge and skills to ensure future success. Similarly, we might send Airmen to work with the Army's III Corps at Fort Hood, Texas, to study predeployment planning as that unit prepares for a deployment. DSEs may be as short as a few days or as long as an assignment. We are working to build a catalog of DSEs that leaders can use to ensure their Airmen have the competencies they need to execute their missions effectively. Still, there are other learning opportunities we are considering as well.

For over a decade now, leaders at this command have been pursuing live, virtual, constructive (LVC) learning opportunities.¹² In broad terms, *live* refers to reality—real people in real applications using real equipment. It is how we perform a lot of Air Force training today. *Virtual* refers to real people in simulated environments. This could be an Airman controlling an avatar in a virtual world. *Constructive* is characterized by computer-generated entities—people, systems, and environments/scenarios. The strength of LVC learning is when you put the three together.

Imagine that you are a pilot, flying your aircraft into a training range. You look over your shoulder, and there is your wingman. Only your wingman really isn't there. It is merely a hologram, projected inside your helmet. The pilot of that plane, with whom you are coordinating your mission, is actually operating a simulator many miles away. She sees you in her helmet though, just as she sees the same terrain, the same threats, and the same opportunities you see. Both of you are also connected to a tactical air control party (TACP) who is helping to call in a strike. Only that TACP does not exist in the real world. It is a computer-generated entity, and so are the enemy aircraft and surface-to-air missile systems massed against you. This is a sample of how, through the use of LVC, we will save resources yet create realistic, challenging, learning opportunities for our Airmen.

We will be able to create similar levels of reality in a variety of learning scenarios. For instance, we might create disaster scenarios with mass casualties and toxic environments for medical personnel. Similarly, we will be able to construct virtual warehouses and flight lines to support Airmen working in

these environments. We will even be able to create base attacks and crime scenes for our security forces, with the virtual scenario all overlaid on our Airmen's real working environments.

Not only will these scenarios provide us a tremendous level of reality, challenging our people to refine their skills and expertise, but LVC will also provide us a heretofore unavailable level of agility. As we build these LVC scenarios, we can plug-and-play virtual or actual entities into our learning events as needed to meet training requirements. For instance, we could schedule recurring scenarios, inviting all of those who need refresher training to join into an exercise. We could also deliver these learning opportunities at remote locations to keep our Airmen current in their knowledge and skills even while far from their home bases.

This future is closer than you may think. The Air Force Cryptologic Office (AFCO) of the 25th Air Force has been working with AETC to adapt some of these innovations into their training. The AFCO's short video "Mixed Reality Training" is available at <https://www.youtube.com/watch?v=O-hjBmEz6EE>, which will introduce you to some of these concepts.

Another concept that is emerging among innovators in learning is the use of artificial intelligence (AI) to support learning. Often referred to as "intelligent tutors," the AI program rides in the background of the self-paced learning experience, questioning the student or presenting challenges to ensure learning effectiveness, then selecting and presenting content based on the learner's specific strengths and weaknesses. In a sense, the intelligent tutor is learning alongside the learner—learning about the learner's needs. If a learner demonstrates a mastery in the configuration and employment of a certain subsystem, for instance, the intelligent tutor verifies and records the level of mastery demonstrated and then moves the student to new, more challenging material—all within the framework of either the Air Force or user-defined guidelines for subject matter. This has already proven very effective.

As the price for AI capabilities has declined, the likelihood that we will be able to leverage AI in a wide variety of learning opportunities has increased significantly. Further, coupling AI with LVC allows the constructive entities to react reasonably to learners' prompts without costly interventions by instructors.

Sometimes these intellectual forays into cutting-edge learning technology are misperceived as veiled attempts to eliminate teachers from the learning equation. That is absolutely wrong. These technologies free teachers from the more routine aspects of transferring knowledge to the more complicated and ultimately rewarding requirements to assess higher-order thinking and provide constructive feedback. A machine can tell us we know our colors and can

draw lines and shapes. It takes a human to recognize whether the results of our labor constitute “art” or not. Critical, creative, strategic thinking remains in the realm of the human mind. As we free our outstanding instructional force from traditional knowledge-transfer responsibilities, we will liberate them to accompany their students to these higher levels of learning.



Figure 12. A continuing need for human instructors to mentor, coach, and guide

A final area where technology will help us is in tracking learning. Currently, we track learning in terms of the classes/programs attended and, to a lesser extent, the grade(s) earned, if any. We currently do not track what Airmen know and can do. We make conjectures on what Airmen know and can do based on where they have been and what they have done, but we have very strong evidence that this approach is unreliable.

If we are serious about creating and sustaining lifelong learners, we have to support those learners by tracking their accomplishments. Although our Airmen would gladly take on that task in support of our Air Force and its Airmen, it is just too much to ask. We need to leverage technology to track learning for us.

The intelligent tutor concept we described above does this. We can also do this within the LVC environment. The next task is to find a means for tracking this learning within other learning situations. Linking electronic assessments to the ALR is one way to achieve this. Another is to create apps that can reside on handheld devices that allow teachers to record student learning rapidly,

without the need for lengthy reporting or paperwork. So, we are looking at these technological innovations as well.

It is both fair and accurate to state none of this will happen overnight. Change of this magnitude is neither quick nor easy. It requires leadership support, resourcing, and the expertise necessary to implement these solutions. We have met all of those requirements!

Conclusion

Our Secretary and Chief of Staff are 100 percent behind us. They approved the redesigned Continuum of Learning and reinforced their commitment with a decision to empower a single Force Development Commander with enterprise-level oversight over the entire developmental paradigm. We will discuss this new position in a future article, but for now, it is important to note the demonstrated commitment to developing Airmen inherent in this decision.



Figure 13. The Secretary of the Air Force and the CSAF are 100 percent behind enhanced learning

We are also receiving resources to achieve success in this mission. AETC has already pulled its entire leadership team together to start implementing these changes and is redistributing resources to expedite success. At the same time, resources are being allocated to address some of the specific innovations we have discussed in this article. Manpower remains the critical shortage; however, we are leveraging available financial resources to procure needed expertise through some very agile contracting vehicles, also created to aid in transforming force development.

It is very likely that Airmen at every level will experience aspects of the redesigned Continuum of Learning within the next two years. We expect to have our learning ecosystem online in 2018 and the ALR online within the

following 12 months. Additionally, we are already in the process of “converting” some courses and programs, leveraging Continuum of Learning concepts to enhance learning effectiveness. It is an exciting time to be at Air Education and Training Command!

As excited as we are about the innovations ahead, we want you to know that we are 100 percent sure that we will not get this 100 percent right on the first iteration. We are creating data-analytics functions to measure progress and to give us data on comparative approaches. As good as data-driven decision making is, however, it will never replace the human appreciation for what works best—for what is “art!”

We want your input as much as we want your direct support for these innovations.¹³ We are setting up a blog through which you can reach us to share your ideas, reactions, and insights. You can also identify yourself as a local-level instructor candidate for supporting the Chief’s effort to revitalize Air Force squadrons! The bottom line is this: This entire reinvention of Air Force learning is about you and all the Airmen with whom we serve. You are an important part of this effort no matter where or how you serve. If you want to assist in implementation, we welcome you aboard!¹⁴

Notes

1. *Human Capital Annex to the USAF Strategic Master Plan*, May 2015, A-5, http://www.af.mil/Portals/1/documents/Force%20Management/Human_Capital_Annex.pdf?time stamp=1434024283105.

2. *USAF Strategic Master Plan*, 2015, 7.

3. Secretary of the Air Force Public Affairs, “Air Force Senior Leaders Unveil New Priorities,” *USAF* (website) 2 Aug 2017, <http://www.af.mil/News/Article-Display/Article/1264852/air-force-senior-leaders-unveil-new-priorities/>.

4. Gen David Goldfein, “The Beating Heart of the Air Force ... Squadrons!,” *CSAF Focus Area* (newsletter), August 2016, http://www.af.mil/Portals/1/documents/csaf/letters/CSAF_Focus_Area_Squadrons.pdf; and Gen David Goldfein, “Strengthening Joint Leaders and Teams,” *CSAF Focus Area* (newsletter), October 2016, <http://www.af.mil/Portals/1/documents/csaf/letters/16%2010%2013%20Focus%20Area%20II.pdf?ver=2016-10-13-105649-460×tamp=1476371621707>.

5. James Mattis, , Secretary of Defense Memorandum, “Administrative and Personnel Policies to Enhance Readiness and Lethality,” 21 July 2017.

6. James Mattis, “Secretary of Defense Jim Mattis House Armed Services Committee Written Statement for the Record,” 12 Jun 2017, <http://www.politico.com/f/?id=0000015c-9f04-d070-a57d-ffe4c600001>.

7. The Army innovations in learning are detailed in Elaine M. Raybourn, Sae Schatz, Jennifer Vogel-Walcutt, and Kendy Vierling, “At the Tipping Point: Learning Science and Technology as Key Strategic Enablers for the Future of Defense and Security” (conference paper, Interservice Industry Training Simulation & Education Conference, December 2017), 3. See also

TRADOC Pamphlet 525-8-2, *The US Army Learning Concept for Training and Education, 2020–2040*, April 2017, <http://www.tradoc.army.mil/tpubs/pams/tp525-8-2.pdf>.

8. Raybourn et al, 4. Details on the Sailor 2025 program are available at: http://www.public.navy.mil/bupers-npc/career/talentmanagement/Documents/sailor_2025_glossy_11jan17.pdf.

9. Raybourn et al, 5–6.

10. The DADLAC is being formalized in a revision to DoDI 1322.26, *Development, Management, and Delivery of Distributed Learning*. The impact of this reference on the DADLAC specifically and on distributed learning in general is discussed at “DoDI 1322.26 Reference,” *ADLnet.gov* (website), <https://www.adlnet.gov/dodi>. The MECC is defined in CJCSI 1800.01, *Officer Professional Military Education Policy*, 29 May 15, Enclosure C. The EMERC is defined in CJCSI 1805.01b, *Enlisted Professional Military Education Policy*, 15 May 15, Enclosure C.

11. AFSCs are five-character specialty identifiers. The first number describes the career group. There are nine Air Force Career Groups: 1-Operations; 2-Maintenance/Logistics; 3-Support; 4-Medical/Dental; 5-Legal/Chaplain; 6-Finance/Contracting; 7-Special Investigations; 8-Special Duty Assignments; and 9-Special Reporting Identifiers. The second character (letter) identifies the career field. The third character (numeral) indicates the career field subdivision (i.e., job functional area). The fourth character identifies an Airman’s skill-level. Airmen receive the “1” (helper) skill level when they enter technical school for the AFSC. Upon graduation, they earn the “3” (apprentice) skill level. Individuals are normally awarded the “5” (journeyman) skill level after a period of on-the-job training (OJT) and career-development courses (CDC), normally completed via distance learning. Upon promotion to staff sergeant, Airmen enter training for the “7” (craftsman) skill level. This training consists of more CDCs, more OJT, and for some AFSCs, completion of a resident-training program. Upon promotion to E-8, Airmen receive a “9” (superintendent) skill level.

12. Gen William R. Looney, “On Learning: The Future of Air Force Education and Training” (AETC white paper, 30 January 2008), <http://www.au.af.mil/au/awc/awcgate/aetc/afd-080130-066.pdf>.

13. To contact the Continuum of Learning team, you may send e-mails to AETC.A5S.Workflow@us.af.mil.

14. For more information on the project, visit the Continuum of Learning website: <http://www.aetc.af.mil/Continuum-of-Learning/>; and the AETC internal Continuum of Learning toolkit: <https://eis.aetc.af.mil/HQ/cc/cag/Continuum%20of%20Learning%20Conference/Forms/AllItems.aspx>.



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