



# LEADERS LEARN FIRST INNOVATORS IN EDUCATION

by **MASTER SGT. CONOR GRAY, USAF (RET.)**

In 2021, Joint Staff publications, statements from senior military leaders, external reports, and a Naval Postgraduate School thesis on military education all agreed that professional military education is stagnant and ill-suited for its purpose. Particularly noteworthy is the absence of educational offerings on modern principles for innovation.

But when has a recommendation or agreement among senior leaders been enough?

The following is an account of how I took those recommendations and turned them into action and curriculum change at the U.S. Air Force Senior Noncommissioned Officer Academy (AFSNCOA), where I was an instructor. Seeing an opportunity to take advantage of promised “90 day sprints,” I sought a path to bring innovation to the AFSNCOA curriculum.

I had recently graduated from Project Mercury, a continuing partnership between Air University, the University of Michigan, and the Innovatrium consulting firm in Ann Arbor, Michigan. I didn’t know it at the time, but Project Mercury had put together a 2019 report outlining three barriers to invigorating and modernizing innovation education within the Air University. The report noted the burdensome process involved in changing curriculum, a lack of cross-collaboration between education programs, and the absence of an organizational learning loop from the field back to formal education entities.

I was invited to participate in an AFSNCOA faculty team tasked to research and develop a plan to develop the senior noncommissioned officers of 2030. No one innovates on an island, and my contribution wouldn’t have been possible without connections to Project Mercury alumni Megan Allison, Brandie Jefferies, and Craig Buying, and innovation partners Elizabeth Garcia and Trigger Jordan.

### Immediate Injection of Design Thinking

In late 2021, we met with Chief Master Sgt. Ian Eishen, a member of the Air Force Chief of Staff Strategic Studies Working Group, to discover



how to inject innovation into the current curriculum. It was suggested that we incorporate Design Thinking into the problem-solving lessons, using problem sets supplied by Headquarters Air Force. Air War College (AWC) and Air Command and Staff College (ACSC) faculty members Allison and Jefferies trained the staff on Design Thinking techniques, and together we wrote the new lessons in time for early 2022 execution.

In the lessons, students developed solutions using tools from Design Thinking and the **8-Step Problem-Solving** model. In the pilot effort, all students experienced what it is like to produce novel solutions for leadership teams. The Enlisted Development Action Plan objective for Design Thinking and Human Centered Design education later validated the curriculum changes. These actions and positive responses led to the Barnes Center commander’s decision to delegate authority and resources to the AFSNCOA commandant for further curriculum changes.

### Cross Collaboration: AFSNCOA NEXT

Between classes from May to October 2022, the 30 AFSNCOA instructors rewrote the entire course with their newly attained authority and curriculum staff; this became known as “AFSNCOA NEXT.” Interviews with students during 2022

revealed a need for knowledge about innovation programs and tools available through the DoD. These interviews reflected the findings in the Project Mercury report and a 2020 Naval Postgraduate School published thesis by U.S. Air Force Maj. Adam B. Wieser, “Teaching Innovation: Designing a Curriculum to Change the Military.”

Coincidentally, the ACSC published the lesson topics list. Notably, this list included “Creative Thinking” and “Innovation.” This allowed AFSNCOA to align the subject matter of the Senior NCO tier with a higher level of officer education.

### Creative Thinking and Innovation

The creative thinking lesson extended what worked with Design Thinking. The concepts of divergent and convergent thinking remained a focus in creating options and choices for commanders to use in solving problems. This technique created tension between creative and critical thinking, with an understanding that leaders must lean into that tension to find innovative solutions.

The innovation lesson was entirely new; until now, no lesson in enlisted professional military education focused on the topic. Subjects like Small Business Innovation Research (SBIR) Funds, grassroots innovation (Spark Cells), how to engage with in-

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dustry to solve problems, and the DoD Innovation Ecosystem were largely unheard of in an enlisted curriculum. Even on a fundamental level, there was a need to improve the conversation in military education about how senior Air Force noncommissioned officers should deal with or define innovation.

### Partnerships to Get It Right

We asked innovation experts what they thought should be included in the innovation lesson. Insights were provided by Craig Buying of AFWERX, the Air Force innovation arm; and Garcia and Jordan of Project Morpheus, the Vice Chief of Staff Strategic Studies Working Group at Air Force Headquarters. This partnership provided an in-depth conversation about the nature of innovation and how senior noncommissioned officers can nurture it in their organizations. The lesson exposes enlisted leaders to concepts from *Loonshots: Nurture the Crazy Ideas that Win Wars, Cure Diseases, and Transform Industries* by Safi Bahcall, *Why Greatness Cannot be Planned: The Myth of the Objective* by Kenneth O. Stanley, and *Innovation and Entrepreneurship* by Peter F. Drucker. These concepts are synthesized and discussed by the students so they know precisely how they can foster innovation (new foundational competency) and manage the talent of their people.

The Defense Entrepreneurs Forum Innovation Ecosystem Map, then one of the DoD's most complete listings of innovation organizations with contact information, is incorporated in

the lesson for students to navigate and research. This exposes students to a greater network of organizations and tools that can help them accelerate change.

### Real-World Data and Problems

English philosopher Herbert Spencer observed that "The great aim of education is not knowledge but action."

We aimed to give these future enlisted leaders something they could touch and influence during class or when they returned to their home station and chose to demonstrate the Mobilize VISION, an application that tracks real-world innovation projects within the DoD.

During the demonstration of the lesson's VISION portion, instructors created an account, logged onto the application, and found a project at their previous base. A sampling of results follows:

- One instructor said, "I can't find any initiatives at my last base." Our response: "Why?" The result was a conversation about lack of action.
- Another instructor said, "I found a project I know how to fix." Our response: "Let's call them right now." The result was immediate action.
- A third result was, "I found a team trying to better equip the Child Development Center for children on the Autism Spectrum." Our response: "How many people in your unit struggle with this? Do you even know?" The result was an opportunity for the instructor to drive the subject of innovation into the affective domain and inspire action.

Regardless of the individual student's VISION results, there was a way to wrap up the lesson objectives on innovation and how we as leaders can encourage it.

During the Beta course, the lesson received a variety of responses. Innovators familiar with VISION and the DoD ecosystem were thrilled. Students wanted to spend more time with Design Thinking and Creative Thinking theories. Current plans for Fiscal Year (FY) 2024 include incorporating the Competing Values Framework, a more in-depth theory of how organizations and individuals approach creative thinking and problem solving.

However, over three classes, the greatest frustration involved the required use of a CAC (Common Access Card) reader with a personal device to navigate the technical requirements and access VISION. Some students gave up and partnered with another student or relied on the instructor to navigate access for them. Such behaviors indicated a need for higher levels of digital literacy—a new Air Force foundational competency—to fully utilize more complicated courseware in the educational environment.

### Conclusions

This article illustrates one approach to how, within the confines



of a military institution, we executed speed and partnerships with real-world projects. As for speed, staff were trained and provided with the means to update their material quickly. Partnerships met a wide range of student expectations. And real-world projects required students to adapt to constantly changing tools.

The 2019 Mercury report had described as burdensome the process for changing curriculum. We leveraged the early success of AFSNCOA and secured the needed autonomy to take responsibility from the Barnes Center for updating curricula. Project Mercury personnel and partners were given the necessary resources and authority and rewrote the entire course in six months. The first beta test met expectations, and corrections were made and executed in the next class. Further significant changes are scheduled for development in summer 2023 for FY 2024 execution.

The 2019 Mercury report also found that Air University lacked cross-collaboration between education programs. However, in 2022 we collaborated with ACSC, AWC, and the LeMay Center to synchronize learning objectives for their applicable audiences and elevate their staff members' expertise where needed.

The report found a lack of organizational learning loops from the field to

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formal education entities. The AFSNCOA worked with the Chief of Staff's Strategic Studies Working Group and received data from Wings and Major Command leaders, AFWERX, industry partners like Mobilize, and many others. The Mobilize VISION application, already used elsewhere across the force, was introduced in the educational environment; subsequently, conversations about what happened "at your last base" enriched the innovation lesson discussions.

As the beta for DAU's curriculum "Innovate to Win" opens to a large cadre of acquisition professionals, our experience suggests it would be prudent to use this education hub to find and gather together the "innovation cadre." These would be staff who are eager to collaborate and help students overcome resistance to technical requirements.

Though encouraged by our progress, we must note that there might

be fewer successes where no communities of innovators are willing to help one another solve big problems. Nearly all the innovators mentioned in this article were Project Mercury participants.

With AFSNCOA taking a major step in putting innovation education in the hands of 1,800 leaders per year, the community will grow, new connections will be made, and maybe, just maybe, we will see the acceleration we need.

**GRAY** is a retired educator after serving in the U.S. Air Force for 20 years. He continues serving the Air Force innovation community through his Skillbridge with Mobilize. In 2021, he was selected as Air Education and Training Command's Enlisted Educator of the Year. Recently, Gray was featured on the DAU podcast "Think Differently" with a member of the DAU Learning Faculty, Marina Theodotou, discussing his experiences with Project Mercury.

The author can be contacted at [dragonrebl@gmail.com](mailto:dragonrebl@gmail.com).

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## DAU RESOURCES

- **Think Differently: Leaders never stop learning webinar**
- **EXE 4050V Leading Change to Drive Innovative Culture**
- **Leading Acquisition web event series**
- **PMT 4010 Program Management Course**