

LTC Matthias E. Greene looks out of the cockpit of a UH-60M Black Hawk helicopter while conducting a deck landing on the USS Lewis B. Puller in the Persian Gulf, Nov. 10, 2022. U.S. Army photo by SSG Samuel De Leon.

REFINING OUR TEACHING METHODS INSIDE THE COCKPIT AND OUT

By CPT Jacob M. Conover

istorically, Army Aviation has been extremely reliant on the use of rote memorization as a fundamental learning method. The concept of memorization through repetition undoubtably works at memorizing raw data such as our limits and emergency procedures; however, as we have found through accident investigations over recent years (Flightfax, 2020, p. 1), rote memorization doesn't necessarily ensure understanding. The question now, as our branch continues to look for ways to improve, is how do we promote stronger understanding for Army Aviators in matters of classroom learning all the way up to and including skills while flying? The answer to this question might not be more classes or content in lessons but instead, changing the fundamental way we instruct inside the cockpit and out. We need to instruct through facilitating self-discovery and critical thinking.

In 2020, the U.S. Army Aviation Center of Excellence responded to an increase in aviation accidents with the creation of flight reference cards and implementation of Task 1070, the emergency response method "FADEC-F," which was developed to set priorities and have crews think before they respond (Francis, 2020, pp. 4–6). This is part of an ongoing process within our branch at refining multiple facets of processes from emergency procedure response to how we even go about memorizing underlined steps. Future steps can focus on ways to refine the way we instruct.

Self-discovery learning is the process of individuals constructing their own knowledge through a self-directed learning process (Inventionland Education, 2018), or as Dr. Jerome Bruner put it when famously being accredited for the discovery learning method, "learning by

doing" (2018). This might sound bizarre when we talk learning through selfdiscovery and instructing in the same sentence, and that is because the instructor position at this point is more or less serving as a guide. In a self-discovery teaching model, the instructor is there to facilitate the students in their own form of learning and keep them on track based off the desired end state as the instructor. The benefits to this extra work in facilitating such a learning method are-whereby encouraging critical thinking in the student during their self-discovery-the student will develop the strongest form of knowledge, which is understanding.

We put this learning method to the test in the Basic Officer Leadership Course (BOLC) and Warrant Officer Basic Course's culminating exercise at the end of flight school (Fort Novosel, Alabama), referred to as the Aviation Leadership Exercise (ALE). Prior to ALE, students are briefed on an introduction to aviation mission planning, as well as what basic mission products and planning methods look like in accordance with current doctrine. Once ALE begins, the students of different airframes are placed together and, for the first time in their aviator careers, must work together cross-domain with their partner airframes to plan and then execute their given missions utilizing advanced aircraft simulators. The students go into this with a very basic understanding of mission planning and must "learn by doing."

As a result of this teaching method in the ALE designed around students being forced to figure out how to tackle these tasks on their own with minimal instructor guidance, we have seen extremely positive data over time. Each class generally fits the same mold in where we see exceptional improvement, competency, and confidence in students upon completing their final mission. By allowing the students to make mistakes along the way, they are creating valuable learning points resulting in strong lessons learned to take with them as they graduate and proceed to their first duty assignments as Army Aviators.

Instruction, whether inside the cockpit, or out, should be focused on finding the path to the right answer, not just rote memorization. This is because the strongest form of understanding is knowing the why, which is a pivotal learning point in self-discovery learning. A great way for checks on learning throughout the process is an Instructor Pilot's favorite thing—examinations. Though rather than fives and nines and receiving those rote memorized answers, your goal should often be to evaluate for understanding the "why" behind the content. The way we ask these questions impacts the ability to accurately gauge a student's level of understanding. Avoid leading questions! This can be way harder than you would think. Directed questions result in directed responses, which works for evaluating rote memorization learning, yet it can fail at accurately evaluating true understanding. If the goal is evaluating understanding, then there are better ways to ask questions capable of determining this. One such method is using open-ended questions.

Open-ended questions—questions designed to not have yes, no, or directed answers—are a great resource in evaluating understanding. These questions are designed to get people talking. When asking an open-ended question, ensure that you encourage explanation. I recommend you shut up, make it awkward, and keep them talking. Who knows where these questions can take you sometimes? If the student is able to talk you through explaining a process—or better yet—have them teach you that process, you have then set the conditions for being able to accurately verify their level of understanding for that topic.

As Army Aviation continues to grow and face new threats globally, it is critical for our learning and teaching methods to grow with it. Instructing in the cockpit or in the classroom utilizing methods to promote self-discovery learning and critical thinking will promote stronger understanding in your lesson plans. In doing so, they will promote stronger aviators and a safer force.

Biography:

CPT Jacob Conover is a recently separated Aviation CPT and former senior instructor for the Aviation Center of Excellence on Fort Novosel, Alabama, where he directed BOLC-B phase II and the Aviation Leadership Exercise portion of Flight School. He previously served in the 1st Armored Division Combat Aviation Brigade. He has 2 combat deployments to Afghanistan.

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