

INSIGHTS

The Fighter Pilot Debrief: Continuous Learning from 15,000 Feet

Brandon Roth, U.S. Air Force

Petrut Gogalniceanu, Harvard Kennedy School, Harvard University

Keywords: fighter pilot debrief, after-action review, team learning, military aviation, leadership development

Aerial combat can be quiet one minute and chaos the next. Winning a fight is the difference between life and death. This article describes an important skill that fighter pilots routinely use to increase their chances of winning: *the fighter pilot debrief*. Surprisingly, fighter pilot debriefing techniques are not widely adopted across many professional settings, despite the broader relevance of structured debriefing.

The fighter pilot debrief is best understood as a structured learning process. Research on debriefing suggests that teams improve when they deliberately reconstruct what happened, examine what went right and wrong, and carry those lessons forward into future performance (Arora et al., 2012; Tannenbaum and Cerasoli, 2013). In that sense, the fighter pilot debrief is more than a custom of military aviation; it is a disciplined method of learning from experience. Exhausting critique is the essence of a debrief, hardly enjoyable but a necessary gathering of those involved in a mission to discuss what went well, what went wrong, why, and how to apply those lessons in the future. Talking openly about mistakes is difficult, but it becomes easier over time as people recognize the benefits, and the process becomes part of one's culture.

The first requirement of a good debrief is to be open and honest about mistakes. This is not a process that comes naturally. It can be uncomfortable. It takes courage and humility to be open about mistakes. It is a leader's duty in the debrief to model such openness. The expectation is that every debrief participant is humble,

CONTACT Brandon Roth ✉ brandon.roth.5@us.af.mil

© 2026 The author(s)

This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and source are credited, a link to the license is provided, and any changes made are indicated.

Citation: Journal of Character and Leadership Development 2026, 13(1): 337. <https://doi.org/10.58315/jcld.v13.337>

approachable, and credible (United States Air Force Weapons School, 2025). In the Air Force, the concept of “safety privilege” is used after a mishap to allow those involved to share openly so that safety investigators can understand the root cause quickly (Segura, 2024).¹ Open discussions are conducive to learning, and a healthy culture is one in which every member learns continuously by sharing their experience.

Second, one must make the time for open discussion and honest feedback. The debrief is important and should not be rushed. A training mission requires multiple aircraft, hundreds of maintenance hours, and thousands of gallons of jet fuel. Every flight is a precious resource, and all that matters at the end of the day is the training value captured by those involved. The premium on learning couldn’t be higher, and every training repetition matters.

After landing, pilots spend about an hour securing gear, completing paperwork, and preparing for their debrief. They determine a timeframe and the focus of the debrief—for example, 2 hours to figure out why an attack failed. They gather the raw data and consider how it might be filtered to expedite the process—for example, who was where and when? Who said what to who on what radio frequency? Who employed what weapons, when, and under what conditions?

Every teammate has a different perspective: aircraft are in different locations, hearing different frequencies and seeing different indications from their sensors. The same is true across professions, and a good debrief will integrate all perspectives with the raw data to establish a common understanding of how a dynamic situation unfolded. The following questions guide this process:

- What were the mission’s objectives? Put another way, *what* did the team want to accomplish?
- Did we execute the gameplan? The gameplan is *how* the team intended to accomplish its objectives.
 - If “yes,” did the plan work?
 - If “no,” why didn’t we execute the plan?
- What went right, and why?
- What went wrong, and why?
- What needs to be done differently next time, by the team and by the individual?

The answers to these questions help identify errors that significantly impacted the mission’s outcome. A fighter pilot debrief generally attributes an error to one of the following three sources.² Then, a lesson is developed to identify and prevent a similar error in the future.

- Input Error—the operator misperceived a situation, invalidating their decision or execution and leading to an undesirable outcome.
- Decision Error—the pilot made an incorrect decision despite an accurate understanding of their situation.
- Output Error—the pilot perceived their situation properly and decided on the correct action, but execution was not as the pilot intended.

After a debrief, everyone on the team should have a common understanding of how a complex situation unfolded. They understand the initial intent and the final outcome. They understand how others perceived the execution, and what led to any deviations from the plan (deviations can be both good and bad). Lessons are formally captured for future refinement and review. For example, in the weeks before and after a phase of flight training, pilots meet to discuss such lessons and the most experienced fighter

1. Unlike an accident investigation, a safety investigation is a separate process that allows for the sharing of protected information.

2. This framework has multiple corollaries. One example is the I-P-O model associated with Six Sigma process improvement.

pilots talk openly about common mistakes, in part to teach junior pilots, but also to reinforce a culture of relentless improvement.

Helpful Reminders

- **Establish a timeline.** Fighter pilots may spend half an hour dissecting a 1-minute fight, 4–6 seconds at a time. Eight to 10 fights can become a 5 hour debrief. Do you have that much time?
- **Set a tone of accountability.** During a debrief, the leader will break down the team's performance. The leader should spare no criticism of themselves. Others respond similarly by highlighting any mistakes they may have made which otherwise might go unnoticed.
- **Ask the right questions.** Leaders ask penetrating questions to encourage truthful dialogue, while being careful not to provoke a defensive response. Before lessons can be drawn, the team must share a common understanding of precisely what happened and why it happened.
- **Don't overdo it.** If the team is tired, be mindful of their capacity to learn. You may need to focus on two or three big lessons that are the most important. It's about learning and improving—if people hate the process, the process is not sustainable.
- **Value every opportunity.** The debrief is generally formal, but the learning environment need not be. Valuable lessons may arise in a more social setting after the debrief. Do not overlook the value of informal opportunities, but do not force them.

“To err is human, to persist is diabolical.”³ Winners identify their mistakes so that they don't repeat them. The fighter pilot debrief is a standard practice in military aviation to achieve that objective and it can be applied to any competitive industry. Relentless improvement demands a process, and the fighter pilot debrief has been proven in combat.

References

- Arora, S., Ahmed, M., Paige, J., Nestel, D., Runnacles, J., Hull, L., Darzi, A., and Sevdalis, N. (2012). Objective structured assessment of debriefing: Bringing science to the art of debriefing in surgery. *Annals of Surgery*, 256(6), 982–988. <https://doi.org/10.1097/SLA.0b013e3182610c91>
- Segura, A. (2024, September 4). *Privileged safety information safeguards mission readiness*. Air Force Materiel Command. <https://www.afmc.af.mil/News/Article-Display/Article/3895517/privileged-safety-information-safeguards-mission-readiness/>
- Tannenbaum, S. I., and Cerasoli, C. P. (2013). Do team and individual debriefs enhance performance? A meta-analysis. *Human Factors*, 55(1), 231–245. <https://doi.org/10.1177/0018720812448394>
- United States Air Force Weapons School. (2025, September 25). *About*. Nellis Air Force Base Homepage. <https://www.nellis.af.mil/About/Fact-Sheets/Display/Article/284156/united-states-air-force-weapons-school/>
-
3. Compare Cicero, *Philippics* 12.5: “Cuiusvis hominis est errare; nullius nisi insipientis perseverare in errore.”