Aviation Safety:

Why is Learning from Mistakes and Failures No Longer Enough?

Mark Millam

Technical Programs and Events, Flight Safety Foundation

Progress in aviation safety performance in the next decade will take significantly more energy, resources and insight. To get to the next level of safety, the aviation industry will need to attempt new approaches to managing safety.

We Have Learnt Much from Mistakes and Failures

Up to this point, much of what the industry has learnt is from past mistakes and failures. Investigations and studies over decades have amounted to a tremendous amount of learning. Yet, as the string of common failure points diminishes along with improvements in aviation safety, scenarios and circumstances leading to accidents are becoming less common. As a result, lessons learnt from one accident are less likely to have broad application to future accidents.

We Are Missing Out on Learning **Beyond Mistakes and Failures**

Flight Safety Foundation's (FSF) interest in adding value to learning in safety through examining normal operations and determining what happened well has led the Foundation to author a paper on Learning From All Operations for the ICAO High Level Conference on COVID-19 in October 2021. The paper described how this activity is rooted in ICAO Annex 19 and how there is much to gain from expanding our scope of learning. It also encouraged states around the world to consider expanding the field of vision to improve aviation safety.

The idea for the paper was first seeded when the Foundation launched our Learning From All Operations initiative for a Learning From All Operations virtual symposium held in September 2020. The symposium shared examples of how stakeholders were implementing safety practices that went beyond learning from mistakes and failures. Since that time, an international working group comprising experts from operators, air navigation service providers, academia, industry and government organisations has developed a call for action white paper asserting the need for aviation to expand its approaches to learning about safety. The call for action paper covers details in several used cases.

We Can Learn Not Just from Mistakes and Failures, But All Operations

Additionally, the Foundation will publish a series of notes to cover different aspects of implementing Learning From All Operations. Covering the need for learning beyond failure and how continuous learning happens among individuals, within teams and across organisations, the first note will discuss the following areas:

- The need to have representative and timely learning.
- The need to see failures in the correct perspective.

- The need to expand learning beyond explicit knowledge.
- The need to counterbalance our negativity bias.
- The need to adjust for our overestimation of low frequency events probability.
- The need to learn from processes as well as from outcomes.

In all, the Foundation plans to have a series of seven to eight concept notes on various aspects of Learning From All Operations – offering ample guidance to organisations attempting to implement their own programme.

The Foundation's unique position enables us to identify global safety issues, set priorities and be a catalyst in addressing them through new ways of sharing safety data and information. Going forward, the Foundation will explore other ways to conduct safety analysis and share learning that advance global aviation.

For more information on FSF's paper tabled at the ICAO High Level Conference on COVID-19, please click here or scan the QR code.



For more information on the call for action white paper, please click here or scan the QR code.

