Lights, Camera, ACTION!

Not long after I started working as a flight instructor, I began using a debriefing technique that eventually evolved into the "4-R collaborative critique" approach I've outlined in several articles and contributed to the current edition of the FAA's *Aviation Instructor's Handbook*: Replay, Reconstruct, Reflect, and Redirect. Since an important part of my role as a flight instructor is to help trainees calibrate and refine their perceptions into accurate judgments about their flights, it just made sense to start not by reading *my* laundry list, but rather by having the trainee verbally *replay* the flight while I listened, compare the trainee's conclusions to my own observations, and guide him or her through a structured self-evaluation represented by the remaining "Rs."

There are several clear benefits to this approach. First, the trainee quickly develops the habit of paying attention. Second, it allows the instructor to accurately gauge the development of the trainee's judgment and situational awareness. It provides incredibly useful insights on why a fledgling flyer might have done something that was otherwise completely baffling. Third, letting pilots start by critiquing themselves makes them a lot less defensive — and a lot more receptive — when it is my turn to talk. Many find that my evaluation is a lot more generous than their own.

For the Record ...

Having grown up at a time when cassette tapes were common rather than quaint, I originally framed the first "R" as "replay the tape." Though I never expected pilots to literally record and replay their flights, today's technology offers a wide range of ways to do just that. YouTube is replete with pilots' self-made digital flight records, and I know several pilots who regularly fly with a camera.

These days there are dozens of inexpensive recording devices, some specifically intended for aviation. In fact, one of my bosses uses such technology to record not just his own flights, but also the instructional flights he makes with his student pilot son. I hope I am not spilling secrets by disclosing that the proud father/instructor often spices up our

Monday morning staff meetings by replaying his son's latest aeronautical achievements.

And, as I recently discovered, there's also an app for that. A (free) app called CloudAhoy allows you to use the internal GPS in your iPhone or iPad to record a flight, which you can later replay over Google Earth on your iPhone, tablet, or desktop. The app currently offers both a more analytical "picket" view and a gee-whiz cockpit view, which allows you to literally replay the flight as it unfolded. I was instantly enthralled by the instructional possibilities that CloudAhoy and other such apps offer. For most pilots, and especially for those who have grown up in the digital age, an app-based debriefing is likely to be a lot more fun, a lot more interesting, a lot more accurate, and a lot less threatening than the more traditional postflight critique.

To my fellow technophiles, I offer two caveats. First, please be mindful that not everyone loves to have a starring role in his or her own Movie of Mistakes. Gauge the level of interest and, more important, acceptance before you add this technological element to your postflight debriefing. If the trainee is not comfortable with actual video replays, please don't push the point. The potential value of the tool is lost if fidgeting discomfort ruins the trainee's ability to focus on the flight debrief. In that case, stick to the verbal replay technique.

Second is the hazard that arises anytime two technophiles team up in the airplane. As with any aviation technology, there is danger if flight recording is allowed to drive activities or worse, distract from flight operations and safety. It can also be detrimental if it is allowed to dominate the learning process. Used as a supporting tool, though, adding visual replay capability can be an invaluable tool to accelerate development of critical insights. And for added fun, it adds new meaning to the memory aid many pilots use for the final pre-departure check:

Lights — Camera — ACTION!

Susan Parson (susan.parson@faa.gov, or @avi8rix for Twitter fans) is editor of FAA Safety Briefing. She is an active general aviation pilot and flight instructor.