STEVE KROG
COMMENTARY / THE CLASSIC INSTRUCTOR

What Are We *Not* Teaching Students Today?

Part 2

BY STEVE KROG

"BACK IN MY DAY we were taught to think when we flew. Today the computer does it for you!" I've heard that comment numerous times when talking about flight training with peers my age. I recall my instructor telling me over and over during my initial training, "Think ahead of the airplane. If you're on the downwind leg of a landing, your mind is already thinking and visualizing the base leg and final approach."

IMPACTS ON FLIGHT TRAINING

Flight training has experienced significant changes over the past two decades. The rapid advancement of electronics now provides a student with a glass cockpit for flight and every aspect of engine functions. Flight planning is done for you automatically when using any of several computer applications. All these systems have been developed and installed to improve flight safety while easing a pilot's workload. But have they really done so?

The renewed interest in learning to fly has brought challenges for Part 141 and Part 91 flight schools. The increased number of students puts a great deal of strain on these flight schools as they attempt to meet the need and challenge.

The quality of flight instruction, in some situations, has also suffered over the past decade. In today's primary flight instruction environment, an active flight instructor building time pursuing a career as a commercial pilot will be teaching for only about two years before advancing. As an industry, we are experiencing a near 100 percent turnover every 24 months. Adding to this problem, a percentage of these instructors are only interested in logging hours. Being a good, competent teacher may become secondary to personal goals.

Collectively, these factors have created a weakness in flight training and the end product. To meet demand, flight training has become an exercise in checking the box and moving on to the next item to keep up with the demand. For example, if the flight lesson for the day involves teaching steep turns, are they explained, demonstrated, and then performed until the student can do them proficiently? Or are the turns repeated several times and then forgotten until preparation for the checkride? All for the sake of checking the box.

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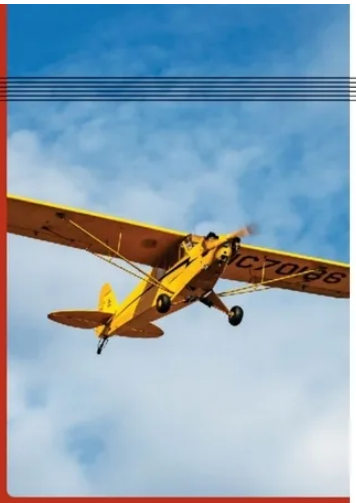
WHAT'S MISSING?

Things I've observed when flying with individuals exposed to the training environments mentioned previously is their lack of situational awareness on several fronts. They are so focused on watching all the screens and pressing all of the buttons on the instrument panel, they forget to ever look out the window. Oblivious to the surrounding area, there might be other traffic, terrain changes or obstructions, and wind changes affecting their intended flight. Sure, some of the electronics will alert you to traffic or terrain obstructions, but only if you are paying attention. I've observed individuals so focused on following the magenta line on the moving map that they missed the traffic/obstruction alerts. Looking out the window is an afterthought.

THINKING OUTSIDE THE BOX

I frequently find students staring at the gauges and trying to fly the aircraft by the numbers found in the pilot's operating handbook. The book says hold it on the runway until 60 mph is achieved and then pull back on the yoke and climb at 80 mph. Doing so never develops a feel for the airplane or a comfortable pilot. If you could show the flight path from a side view, it would appear we were performing a series of shallow vertical S's as we tried to corral the airspeed.



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One exercise we like to do with our students is to cover up the basic six-pack instruments, be they steam gauge or electronic. Then we ask them to perform a takeoff, climb at the best rate of climb to 3,000 feet MSL, level off, and establish a straight and level properly trimmed cruise flight. It's amazing the looks you'll get from students. They'll claim it can't be done safely because they were never taught to fly by feel, sight, sound, and attitude.

After doing this several times with each student and really emphasizing nose attitude and engine sound, the student realizes it can be done and performed safely.

STEVE KROG

We'll repeat this exercise in reverse in preparation for a descent and landing. Covering up the instruments, establishing a nose attitude, adjusting power by engine sound, and estimating altitude is awkward the first two or three times it's tried, but after that the student can perform it almost naturally, using the instruments only as backup.

The level of confidence instilled in a student after trying these actions several times is rewarding to me. More importantly, it really improves the student pilot's confidence and safety.

Understanding weather is another glaring weakness I've found among students and low-time pilots. Anyone can be taught to read a METAR or terminal area forecast report. The FAA publishes an excellent guide for doing so. Students can recite verbatim exactly what all the symbols and abbreviations state. But ask them what it all means regarding the weather of the day and their response is a blank stare. They have been taught to check the box to pass the test but were never taught to interpret and understand what it means and the influence it may have on today's flight.

The practice we have incorporated into our training curriculum is to have students read the METAR and terminal area forecast to their instructor and then verbally describe what that information means and how it will affect the day's flight. Then we ask, "Can we fly today? If so, why? If not, why not?" This forces students to think outside the box and not depend on the instructor to make decisions for them. Long term, it will make them better, safer pilots.

Determining and interpreting surface winds while in flight is another exercise we challenge students with. After 20-30 minutes of air work, and while remaining on a constant heading, we'll ask them to determine the surface wind direction. Again, the deer in the headlights look is oftentimes the initial response. But then we point out surface signs or indications that will define surface wind direction. Waves on a body of water, smoke, wind farm windmills, and waves in the tall grass fields are all good indicators for determining surface wind. Why do we perform this exercise? To be more aware of our surroundings, especially if some sort of emergency would occur. It is also extremely helpful when approaching an unfamiliar airport with the intention of landing.

The unfamiliar airport where you intend to land may have a few tricks of its own. Trees, hangars, berms, and other surface obstructions can influence surface winds, especially when performing a crosswind approach and landing. Glancing at the airport topography as you pass overhead can provide you with information you can use to perform a good, safe crosswind landing and rollout without surprises.

At my home base, we have a tall tree line paralleling our turf Runway 18 that extends well beyond the approach end of the runway. Setting up for a crosswind approach and landing with a surface wind from the right, say 220 degrees, all seems to be normal until the descending flight path reaches the top of the tree line on short final. The bottom falls out, or so it would seem, because the trees have blocked the wind. Thinking ahead and anticipating what you may encounter prevents big surprises. Again, thinking outside the box.

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When riding along on a dual cross-country flight with a student, I like to play the game of "what if." Every 10 minutes or so I'll ask the student to point out a good field where we could land if the engine quit right now. It helps instill the idea of thinking ahead of the airplane, being alert, and always being prepared. Add the knowledge of surface wind direction and the first two steps of an emergency landing have been completed without wasting valuable time and altitude. As a practicing safe pilot, you may want to try this "what if" game the next time you depart the traffic pattern.

As flight instructors, we are the first line of defense and have a deep responsibility to teach, train, and turn out the best possible pilots we can within our abilities. It requires dedication, involvement, and work. As a longtime flight instructor, I prefer not to undergo a lengthy interview with an FAA inspector quizzing me on how I might have trained, or improperly trained, an individual who just experienced an accident or incident.

To turn out good safe pilots who think outside the box requires training well beyond checking the boxes on the syllabus. It means teaching students how to deal with real-life flight situations. Doing so can and will prevent bent airplanes, bruised egos, or worse. EAA

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