

I was taught to ...

by Richard Carlson – SSF Chairman

Glider flight instructors provide both explicit and implicit training to trainees at their club or commercial Fixed Base Operator (FBO). Explicit training is when the CFIG demonstrates a skill or evaluates the pilot's actions and decision making skills. Examples include: setting the pitch attitude to fly at the proper speed, making coordinated turns, determining the proper approach speed for the current conditions, or executing a safe landing after reaching your hard deck altitude. Implicit training is when the CFIG tells pilots one thing, but their behavior demonstrates something quite different. Examples include training students to roll out and stop on the runway centerline but then turning off the runway at high speed when landing your own glider. Another might be posting a flight on OLC showing that you thermalled below your personal hard deck.

Pilots also implicitly learn by watching and talking with their friends and peers at the club or FBO. The club's or FBO's standard operating procedures (SOPs) can also provide both explicit and implicit training opportunities.

One of the major challenges CFIGs face is understanding when the trainee is relying on their implicit training to make decisions, even when they thought it was an explicit training event.

Let's take this scenario. Your CFIG is conducting a Flight Review and you are on the 3rd flight. At 300 ft AGL the instructor pulls the release to simulate a rope break. You immediately enter a steep right turn to go back and successfully land on the runway you just departed. A common event for most of us, and something instructors explicitly train students to accomplish.

However, read that sentence again and ask yourself, is this what I would always do in this situation? Is an immediate right turn always the proper action to take? Just before your take-off roll began you completed your pre-launch checklist and covered the emergency procedures, didn't you? This checklist item covered what you would do at multiple points in the launch, and in some cases the response was to not attempt to return to the runway. It also covered the external factors like wind speed and direction, tow-plane performance, terrain features, and density altitude. All of these factors should be used to determine what action to take at specific points in the launch.

The implicit learning that could be taking place is what led to this immediate right turn. After all, every practice emergency rope break you ever did probably occurred at an altitude where a return to the runway was the proper response. However, in a real emergency what have you trained yourself to do? Return to the runway, or evaluate the situation and execute the plan you reviewed 30 seconds ago during the pre-launch checklist? Too often we read accident reports where the pilot followed their implicit training and executed the return to the runway action even when they did not have the altitude to do so. Just as bad, they had too much altitude because of their position relative to the runway.

Let's look at another scenario. You are downwind of the airport and getting low when you decide it's time to head back. The headwind is a bit stronger than you expected so you arrive back near the field lower than you had expected. Flying the length of the runway to get to the Initial Point costs you more altitude. Turning onto downwind you are low, but deploy ½ spoilers like you normally do. With luck you will just make the runway, more likely you will hit something while on final approach.

Your training probably covered what to do if you are too low to make a full pattern. These might include eliminating part or all of the downwind leg or making a straight in approach, just 2 options that

should have been considered. Yet, the implicit training kicked in and you fell back on the normal routine of going to the IP and configuring the glider for landing like you always did before. Again, the accident database is littered with descriptions of pilots making this poor decision.

Now some of you are saying “I would never do that.” Yet, in a real emergency or difficult situation most of us will fall back on our training. That is called the law of primacy.

The question then becomes, what training did you receive? As a CFIG I need to manage the risks when practicing emergency procedures. Landing in a field is a higher risk, so simulated rope break training usually occurs at an altitude where a return to the runway is highly likely. One option is to provide training in real launch emergencies through ground discussion with lots of possible scenarios, to drive home the point that not every emergency will result in a return to the runway. Another option is to practice releasing while there is still room on the runway to land straight ahead. A third option is to use a simulator to practice these emergency procedures at multiple altitudes where a return to the runway is and is not possible.

In the landing case I demonstrate early in a student's training that the pattern is a tool that is very helpful, but not essential, for making a safe landing. I show them a pattern where the downwind leg is removed, and another pattern where half of the downwind leg is discarded. This explicit training is then reinforced throughout the training to guard against the implicit training that comes from making multiple ‘normal’ patterns over the course of their training. The SSF’s Goal Oriented Approach is designed to encourage this type of training by all CFIGs.

As instructors, we need to use both explicit and implicit training activities to our advantage. The club/FBO SOPs need to strike the right balance of proper guidance for normal operations and what happens when an emergency or abnormal situation arises. Our trainees need to be taught to recognize when implicit training is occurring and how to deal with it in a positive manner. Doing so will improve their Aeronautical Decision Making (ADM) and Risk Management (RM) skills, which makes soaring safer and more fun.

Using good ADM/RM skills and recognizing when implicit learning is taking you down the wrong path can help you avoid the situation where you are explaining why the glider was damaged even though you were "doing what you were taught."