

### SUPERSONIC LESSONS

### Demand A Plan

by ERIC CHANDLER

here you are, skimming the treetops at 500 miles per hour. You sense the enemy surface-to-air missiles trying to find you and shoot you down. Just a few more miles and you'll reach the target area. Uh-oh. Looks like some enemy fighter planes on the radar. This is going to be a rough day.

No, you didn't pick up the wrong magazine. This jet fighter training scenario has more to do with snowsports instruction than you might think.

As an instructor pilot in the F-16 Fighting Falcon who also happens to be a cross-country ski racer and volunteer coach, I've found that there are striking parallels between PSIA's American Teaching System (ATS) and the methodology I use to train my fellow fighter pilots. The most important part of a pilot's training mission is the debriefing, in which we build upon lessons learned. Sound familiar? It should. Lessons learned are an equally important part of PSIA's Teaching Model.

### [ parallels in planning ]

To help build success among pilots, I make use of a Mission Planning Cycle that, like the Teaching Model, offers a means to develop a game plan for the task at hand (fig. 1a). Replace the word "Flight" with "Lesson" and you'll start to see the similarities. The correlations become even clearer when you swap out the mission plan's main headings for corresponding elements in that part of the Teaching Model known as the Teaching Cycle (fig. 1b). (For more on these elements, see chapter 5, "The Teaching Model" in PSIA's Alpine Technical Manual, second edition.)

Air Force flight training tends to be more driven by external objectives than

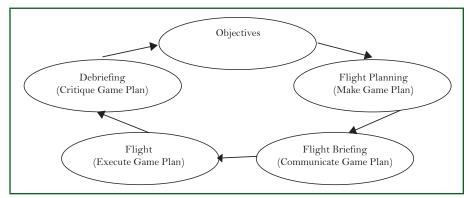


Figure 1a: Mission Planning Cycle

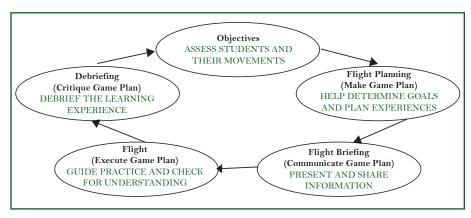


Figure 1b: Mission Planning Cycle with Teaching Cycle Elements

student-centered snowsports lessons are, but the overall process is very similar. See figure 2 for a direct comparison of the Mission Planning Cycle and the instructor behaviors outlined in the American Teaching System. I've used this process thousands of times, on thousands of flights. Much like the Teaching Model, it can be used for tackling both big picture, long-term challenges and very small scale, short-term skill issues. Incidentally, these similarities apply whether you're teaching classic, skate, tele, or even alpine or snowboarding lessons.

### [ the plan in action ]

Okay, so the first thing to do when undertaking your mission (be it in-air or onsnow) is determine the objectives. These must be clearly defined and measurable. "Do your best!" is a good philosophy, but it's not a good objective. "Defend the airport from attack for one hour" or "Improve weight transfer and commitment to each ski during the diagonal stride" are good examples. Every time I fly, I stand in front of the room and write my objectives on a dry-erase board. Ski lessons tend to be more fluid and less academic than that—

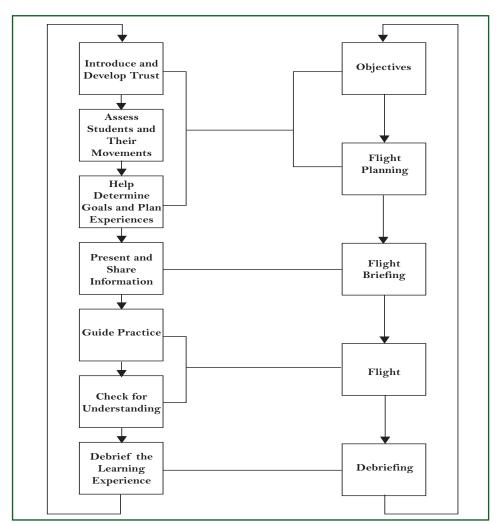


Figure 2: ATS Teaching Cycle (Instructor Behavior) Compared to Mission Planning Cycle

and student collaboration is key—but the importance of the objectives is the same. This is equivalent to "Determine Goals and Plan Experiences" in the ATS Teaching Cycle.

Next, conduct flight planning to meet objectives. For a combat pilot, it might mean planning what path you take to the target to avoid enemy aircraft and surface-to-air missiles. For a ski instructor, it means understanding the student's goals and motivation for the lesson and tailoring the lesson accordingly. Terrain selection is a big part of this. For example, a nordic student might appear tired and unmotivated, so you may choose to work on the diagonal striding in a flat spot instead of a hilly area. This is the same as "Introduce the Lesson and Develop Trust" and "Assess Students and Their Movements" in the Teaching Model.

Third, you need to do a flight briefing. Before a flight, I deliver an hour-long

briefing to the pilots I'm leading. For a ski instructor, this is the "Present and Share Information" step of the Teaching Cycle. This may entail a clear, concise verbal description of the general flow of the day's lesson, including a specific discussion of how to properly transfer weight to each ski during the diagonal stride.

Fourth, take flight. As an instructor pilot leading a practice mission, I need to do exactly what I planned to do to achieve good training for my new, young wingman. As a ski instructor, you "Guide Practice" and "Check for Understanding" throughout the lesson.

You can provide instant feedback to your students on how well they are striding on their classic skis and ask them if they are feeling an improvement in glide and kick. In many ways, ski instructing during the lesson is easier than flight instructing: You can talk face-to-face instead of through a radio and you



aren't traveling at insanely high rates of speed!

So you fly. Or you spend the day outside with your diagonal-striding students on the trails. Your muscles are tired and your students want to rest. This is true for both flight and snowsports instruction. You're at a crucial point. Whether you just pulled 9 G's in a dogfight or just finished a ski lesson, you're pooped. Time to buck up and start the debriefing. This is the same as "Debrief the Learning Experience" in the ATS Teaching Cycle. Interestingly, the PSIA Internet Learning Center (found online at www.psia. org) uses the same terminology as the Air Force and calls this step "Debrief and Closure." In my opinion, this is the most important part of any flight or ski lesson. It's also the part that's easiest to skip.

Use the debriefing process (fig. 3, page 52) to remind everyone of the objectives. Here's where you reconstruct events, figure out execution errors, derive those all-important lessons learned, and end by assessing how well you met the objectives. You might begin by reviewing a mental checklist of objectives (or maybe even a list of goals you've actually written down) and remind yourself what you wanted to do. Without being judgmental, simply reconstruct what happened during the lesson and ask students for their own assessment of what they've learned. If you have video of a lesson, it may be very clear what took place and what execution errors were made in learning diagonal stride technique. Next, the most important step is to pull out lessons learned.

## [ banking on lessons learned ]

What exactly is a lesson learned? Well, it's essentially a declarative statement that tells you specifically how to correct an execution error. Some instructors may think that execution errors and lessons learned are the same thing, but they're not. Any chimpanzee can simply list what the student may have screwed up. You make your money as a coach or instruc-



Figure 3: Debriefing Process for Snowsports Instructors



tor by finding the root cause of an execution error and coming up with a lesson learned that fixes it.

For example, let's say that in reconstructing a nordic ski lesson you deter-

when using poles. A good lesson learned might be: "Warm up without poles in a flat area before diagonal striding with poles."

An easy trick to make sure you're cre-

he most important part of any method is to create and pass along to your students those critical lessons learned.

mine that a student was proficient at diagonal striding when he warmed up by first doing diagonal stride exercises without poles. In contrast, when he didn't practice without poles he skied poorly. The execution error, you might surmise, is that this student didn't transfer his weight properly from ski to ski when skiing with poles. Some instructors would stop here, review their objectives, and call it a day with a simple pronouncement of "You didn't commit your weight to your skis. See you next lesson!" Those would be the chimps who gloss right over the most important element of the debriefing process (see fig. 4).

Ah, but you're not a monkey. You're a professional snowsports instructor! The hard work comes in finding root causes and fixing them. Going back to the previous example, when the student warmed up without poles he performed better

ating valid lessons learned is to say, "Next time I will \_\_\_\_\_\_." Whatever you use to fill in the blank becomes one of your lessons learned. When your student reviews the lesson he can think, "Next time I will . . . warm up without poles in a flat area before diagonal striding with poles." You want your student's lasting impression to be the voice of his instructor, describing concrete ways to improve. He can take these directive statements of lessons learned with him wherever he goes; to another lesson or to a practice session on the trails.

You aren't deriving lessons learned when your student recounts things like "weight between skis" or "dragging trail foot." It will be obvious that you're only listing execution errors when you use this trick. For example, this sounds silly: "Next time I will . . . weight between skis."

Teaching System is a useful way to develop instructor behavior. As an Air Force instructor pilot, I use a process very similar to that used by snowsports professionals throughout the land. The most important part of any method is to create and pass along to your students those critical lessons learned. While it might appear more linear than ATS methods that emphasize teacher/student collaboration and revisiting various strategic elements as need be, there are still plenty of opportunities to change course and modify tactics in the pursuit of various objectives.

By the way, your students aren't the

[ coming in for the landing ]
The Teaching Model—and particularly
the Teaching Cycle—of the American

By the way, your students aren't the only ones who stand to benefit from lessons learned. Instructors, too, gain important strategies and experience over time. Making note of your own lessons learned and maybe debriefing with a colleague or trainer can help—regardless of what discipline you teach or whether you're a rookie or veteran. That's what PSIA and AASI are all about; coming together to share the best ideas and get better at helping students learn.

So, whether your aim is to develop mission-ready pilots who are prepared to defend the nation in high-performance jet aircraft or just teach a snowsports lesson that will have a meaningful impact on your students, the same methodology can apply. You too can become a fighter pilot of the trails!

Eric Chandler (below) is a lieutenant colonel in the Minnesota Air National Guard, and has been an F-16 instructor pilot since 1996. A longtime ski racer and volunteer KidSki coach at Minnesota's Snowflake Nordic Center, he has completed the American Birkebeiner cross-country ski race six times. Chandler lives in Duluth, Minnesota.

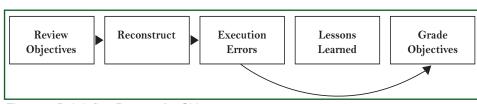


Figure 4: Debriefing Process for Chimps



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