Flight & Ground Instructor Pro-Tips

> 200 Tips, Stories & Resources from instructors and pilots for any future or current instructor.

1st Edition

Edited by: Gary "GPS" Reeves

Guy in the Pink Shirt

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FLIGHT AND GROUND INSTRUCTOR PRO-TIPS

STORIES AND TIPS FROM OVER 150 CONTRIBUTORS TO HELP EVERY INSTRUCTOR BE BETTER AND PRODUCE SAFER PILOTS

Edited by: Gary *"GPS"* *Guy in the Pink Shirt* Reeves
2019 FAA National Instructor of the Year

Flight and Ground Instructor Pro-Tips

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INTRODUCTION - GARY "GPS" REEVES

CFI/CFII/MEI for 17 years from TX
FAA Safety Team, Lead Rep
2019 FAA National Instructor of the Year
www.PilotSafety.org

First I'd like to welcome you, as the readers of this first edition and work in progress. I started this project as a way of giving some of the mentoring and support I received back to the instructor community. This also supports the mission of PilotSafety.org to reduce GA accidents.

The two biggest problems in general aviation today are; One a myth that "time builders, don't care" and secondly many instructors don't teach long enough to build their own experience or discover resources that can help them teach effectively.

A learner who doesn't receive effective primary training will always have gaps and problems that arise later, sometimes with fatal results.

Many pilots and "career" instructors seem to revel in complaining how the "time builders don't care" The "time builder" complaint is the most dangerous myth in general aviation safety.

In two decades of flying, I have never met a single CFI, including time builders, that honestly did not care if their student got hurt or failed a test.

Pilots and other instructors only promote this idea because they see the gaps and problems that pilots show later. It's easy to just say the previous instructor didn't care.

Loudly promoting this incorrect assumption about time-builders in not only untrue, but actually makes the situation worse.

Saying new instructors "don't care" because they want a different career makes the problem worse. It creates animosity and an "us vs. them" mentality which causes them to avoid asking an experienced instructor for help or advice.

Using CFI as a way to build time towards another long-term career goal is not the problem. Almost every career has stepping stones. A lot of great nurses and doctors started out as an EMT, then became a paramedic, before going on to the final career they were passionate about.

This is no different from pilots who want to fly large airliners from starting out as a CFI,

going to the right seat of a small charter aircraft at 400 hours and then going on to live their dream at 1500 hours.

All instructor training programs, even the very best, are mostly focused on rote memorization(the lowest level of learning) of regulations, ACS standards, rudimentary lesson plans, and how to do correct endorsements!

There is some time spent on simulated teaching from the right seat and presenting a lesson plan, but CFI training is almost totally focused on passing the CFI written tests and check ride.

Would a heart surgeon that had never performed a real surgery, but only passed some written tests, an oral exam, and performed one short 90 minute simulated surgery in controlled conditions be great in their first two years?

Some ground instructors receive no formal training at all. Rote memorization of the Aviation Instructor's Handbook, like the acronym RUAC to pass an FOI test with having enough knowledge to pass a private, instrument or, commercial written is all that's required.

David St. George from S.A.F.E.(Society of Aviation Flight Educators) shared with me, a scary statistic. *Most flight instructors today teach for less than one year before moving onto another step in their professional career.*

If instructors don't teach long enough to gain experience, don't discover and use resources to help them become better, and we don't do something to support them, then the outcome of student problems is predictable.

The solution to helping instructors be better and thereby produce safer pilots is shockingly simple. Let's work together to give every instructor, what they really need: Experience.

If every instructors knew about the FAA WINGS program, used resources like N.A.F.I. or S.A.F.E. and, was given the shared experience of others, the culture would change overnight.

One story on how another instructor helped a student overcome a learning plateau or one tip on communicating better can make a huge difference to the success of the instructor and their learners. Karen Kalishek, and others from N.A.F.I.(National Association of Flight Instructors), went out of their way to help collect and encourage others to share their experience for this program.

These tips and stories represent over ***1500 years of combined teaching experience,*** but not all come from instructors. Some of the best stories and tips submitted came from low-time student or private pilots sharing what their instructors did right or could have done better.

I have learned a lot from reading these submissions and know that any future, new, or long-time career instructor will gain a lot as well.

I want to emphasize that I only edited submissions for grammar, clarity and, focus. *(If any grammar problems or typos made it, please blame Grammerly.)*

There are some submissions that I don't personally agree with the tips, or teaching methods, promoted by contributors. If I only allowed contributions that I agree with, we could miss out on something that works better, than what I do. The best lessons often come from people who have an opposing point of view.

Use this book actively. Take notes, highlight key parts, watch the videos, visit the links and, use some of the tips and techniques presented.

Some may not work for you or with every student situation, but they may generate a new idea that is effective and you can share with others.

This game-changing program is free for every ground, flight or, student instructor thanks to Avemco Insurance who was the first with a generous donation to start and continue to support it.

I and PilotSafety.org are donating $50,000 and the hundreds of hours to produce/edit content and host the online videos and web presence to actively promote the program nationwide, ***but it will not succeed without you.***

Please share your stories, pro-tips and feedback on this program with us. Contribute one story or tip and you will receive credit as a contributing author and can have an included link to your email or website promoting your services.

Most importantly, by sharing and promoting this program to every instructor and instructor training program, you will make a significant difference in GA Safety.

My heartfelt thanks goes to you the reader and the contributing authors. I am honored to have you a friend and my partner in GA safety.

MasteryNotMinimums™

Gary **"GPS"** ***(The Guy in Pink Shirt)*** Reeves
2019 FAA National CFI of the Year
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CONTRIBUTING AUTHORS

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Share Your Pro-Tip

A STRUGGLING INSTRUMENT STUDENT - JOHN NIEHAUS

Teaching for 14 years from MI
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I used to teach at a Part 141 university, and my favorite students were the ones similar to myself that struggled or didn't get it on the first try. This student was a typical one in the program. She went directly from completing her private pilot check ride to starting her instrument training without time to celebrate or enjoy the monumental moment of earning her certificate. I was either her second or third instructor due to an instructor leaving or a lack of progress by the student. A good instructor gets to know their student before any attempt to teach takes place, and a better instructor learns to ask the right questions.

What I mean by this is, especially when you inherit a struggling student, you must dig down below who you are, what you want to get from this training, where you want to be in 5 years, and what you like to do in your spare time.

It would be best if you learned what makes the student tick, how they feel they learn best, what types of things they have struggled to understand before, and what frightens them about flying or even life. Using these types of questions, I learned that the student wasn't progressing, not because she didn't understand the concepts or couldn't fly an approach. It was a lack of self-confidence due to unrelated issues at home. A previous instructor's lack of sensitivity to understand what was happening caused the performance deficiency to snowball.

From there, I realized my job wasn't to waste her time reteaching her maneuvers and concepts she already knew and understood. It was to be her cheerleader and prove that she could achieve success. Show the ego you can do it, and the mind and body follow.

From there, I developed several non-flying techniques to not waste her money flying an expensive airplane but also build her self-confidence in the process. I created an entire board game out of shooting an approach with each step of the process mapped out. It had different difficulties, so as she progressed, I took more and more hints away. It used the shapes and game board from perfection to simulate the stress of flying an airplane while talking and thinking. When I was done working with her for an afternoon, she could tune frequencies, communicate with ATC, configure an aircraft, and tune a nav aid, filling in the little yellow shapes before they all popped onto the floor.

My point is, as CFIs, our job isn't to teach concepts and fly cool airplanes. That's the best part, but it's more like step two. Step one is learning the things about a student that most instructors would not think to ask and teach outside the norm using what you have learned. Find creative ways to teach and succeed; new students will seek you out.

https://www.nafinet.org/

Visit NAFI on the web

ZERO INSTRUMENTS BEFORE SOLO - CHUCK STONE

CFI/CFII/MEI, BGI/IGI/AGI for 55 yrs from MO
A&P, Aircraft Dispatcher, ATC License, Flight Engineer
cfstone3@gmail.com

I used a combination of Sporty's and Gleim's ground and flight syllabus for their training. Most were ready to solo after about 10-12 hours of flight training, but I like students to be more confident and safe. I give an additional 2-3 more hours before solo.

Before they solo, I cut out a piece of cardboard to cover the entire instrument panel leaving only the throttle and mixture accessible. Then I explain I would like them to fly the pattern circuit by visual reference outside and sound of the engine. I said this is what Orville and Wilbur had to do, they had no instruments, and you can do this too!

I usually get that "deer in the headlight look," then I explain I am here to take over if you cannot maintain control, so relax and try it. I have done this many times and never had to intervene, and most student takeoffs and landings were good.

The pre-solo student is amazed that they can do this safely without referencing the airspeed, altimeter, or RPM. It's a real confidence builder!

That is my final task before getting out of the airplane and letting them solo, and just like all the other pilots who solo, they are very excited and happy when they shut down the engine and set the parking brake! The CFI must be flexible. Not all students learn the same way. The instructor should be able to adjust techniques to help the individual student learn best.

NOTES:

25 AIRLINE RULES TO BE SAFER - VICTOR VOGEL

IGI/AGI Teaching for 4 years from PA

Twenty-five airline rules and procedures to keep you and your students alive for 1000 hours of cross-country flying. Consider adopting the following airline policies, which result in a spectacular safety record for several reasons:

1. They use recurrent training to maintain and improve proficiency in addition to currency.
2. They develop and follow meticulously standard operating procedures (SOPs).
3. Checklists are an essential part of SOPs.
4. Two-pilot crews practice and employ crew resource management.
5. Airline crews learn Threat and Error Management (TEM) techniques that recognize that pilots operate in a complex and highly dynamic environment where every action can be critical.
6. They assiduously follow FARs related to departure and arrival weather minimums.
7. Minimum equipment lists dictate when a departure is not possible with inoperative equipment.
8. Be compulsive about planning and safety. Be compulsively organized and systematic.

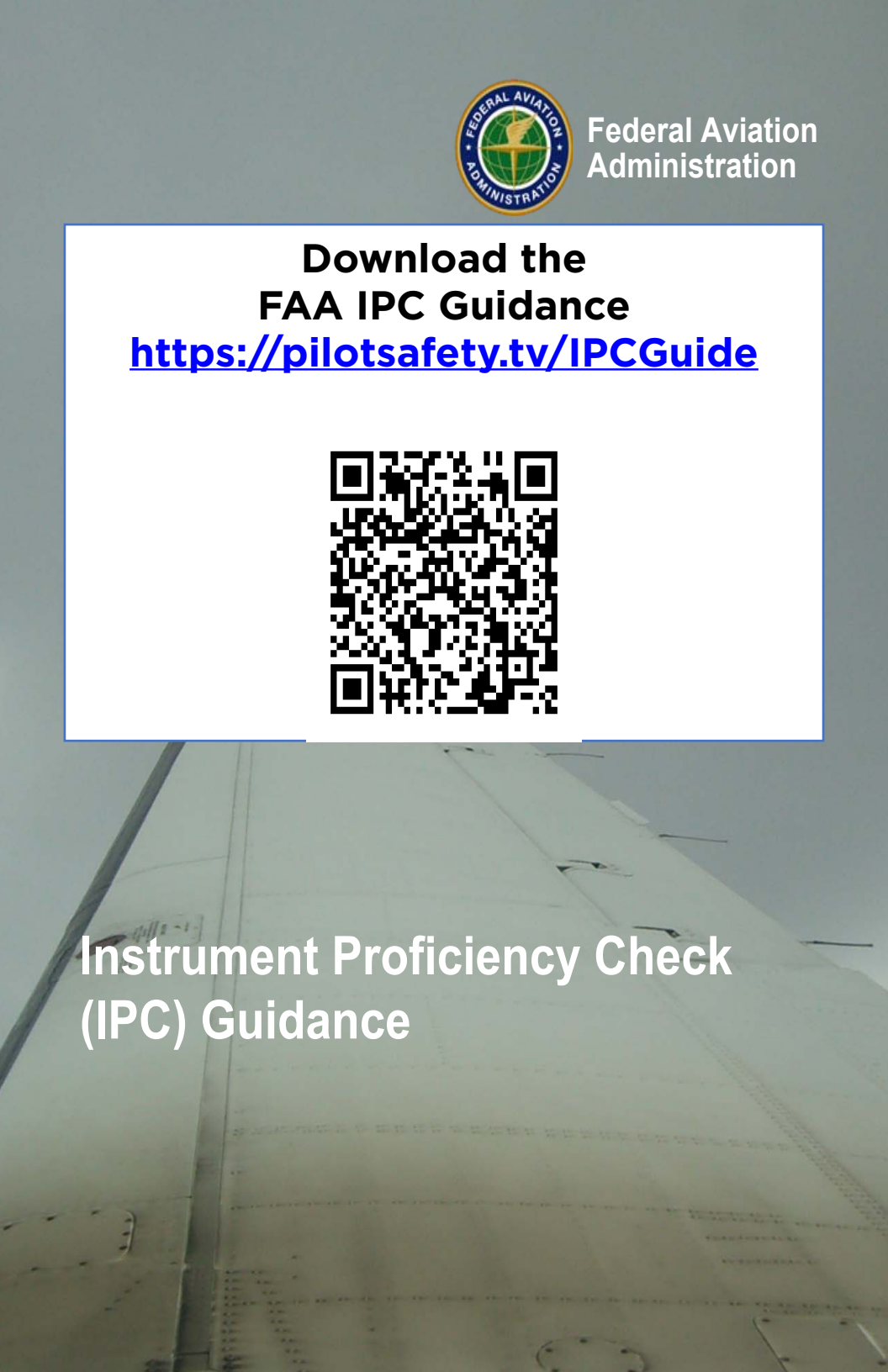
9. Make sure the aircraft's maintenance is current and first-rate (including lights, batteries, fire extinguishers, oil, tires, etc.)
10. Assume ATC works for you: tell them what you need and want
11. Keep a calendar of pre-flight and trip events; use it as a checklist.
12. Make planning lists before getting to the airplane; remember what not to forget (e.g., mobile phone, iPad, charts, GPS receiver, handheld radio [charged], etc.)
13. Use trip folders to store and organize all material related to the trip: schedule and location for any meetings, hotel location, contact information, rental car information, business contacts, and family phone numbers.
14. Use the flight planning function in an app such as ForeFlight. Use the pack function to store information about the flight, including taxi diagrams for the departure and arrival airports, departure and arrival procedures; approach procedures; and contact information about the FBOs available at the departure and arrival airports. Mark taxi diagrams with a highlighter to indicate closed taxiways and runways and mark hot spots before departure. <<<<PICTURE QR CODE>>>
15. Study the destination airport and its approaches well in advance; print likely arrival procedures. Some experts advise printing ALL the approach plates for the

departure, arrival, and alternate airport(s). Some pilots may debate this in this era of EFBs, but what if the battery dies or the device overheats?

16. Look for hotels and restaurants as contingencies along the route should a stop for maintenance, pilot or passenger health, or mechanical problems require an early landing, including a possible overnight stay.
17. Follow taxi progress on an EFB (iPad) and request progressive taxi instructions at unfamiliar airports. Study departure procedures when terrain or obstacles are present along the proposed route of flight. Ask local pilots and flight instructors at unfamiliar airports about safe departure routes in both VMC and IMC conditions.
18. Print a navigation log that includes GPS waypoints, VORs, leg distances, and times. Be prepared to change it should weather or ATC require re-routing.
19. Use multiple weather products starting a week in advance.
20. Use a flight planner to consider terrain, alternates, fuel stops, and emergency maintenance.
21. Have a flow in the cockpit.

22. Obtain a clearance on the ground whenever possible. At non-towered fields, there is always either a remote communication outlet ground frequency or, at the very least, a toll-free number to call for pre-takeoff clearance. Even in VMC conditions, getting a clearance on the ground reduces flight workload, anticipates ATC delays due to workload or airspace issues, allows programming the FMS and navigation/communication radios, and reduces the initial inflight cockpit workload. The instructor needs to devote attention to departure procedures and, very importantly, to look outside the cockpit for traffic near the departure airport. Having a clearance on the ground and a release to enter the system also protects the airspace should lost communication or an emergency require a return to the departure airport or continued flight along the clearance route.
23. Be flexible in departure days and times. In 40 years of instrument flying, I have lost count of the times I have delayed departures due to fog, thunderstorms, low ceilings, or density altitude considerations.

24. Survival rules
    - Never fly with required equipment inoperative (unless you have a ferry permit)·
    - Always be willing to alter the plan.
    - Don't kill yourself for a good time. None of us is indispensable.
    - Be proactive rather than reactive.
    - Tell ATC "Unable" when a clearance or request is not possible or compromises safety.
    - No trip is critical.
    - You may need to spend money to be safe (overnight hotel, rental car, airlines)
25. Practice, practice, practice. Do a flight review annually with a CFI and an IPC at least every six months, regardless of currency.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Administration
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FAA IPC Guidance
https://pilotsafety.tv/IPCGuide
Instrument Proficiency Check
(IPC) Guidance

CONTRIBUTIONS FROM N.A.F.I - KAREN KALISHEK

Teaching for 13 years from WI
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During a Sporty's podcast, I was asked what a learner should seek in a flight instructor. This fundamental question deserves a thorough answer. A good CFI who is invested in the learner and understands the learning process cares about the relationship and their student's success is vital to successful flight training. Finding a CFI who excels at instructing provides lifetime benefits.

The suggestions that follow consider the attributes of outstanding flight instruction. Both flight instructors and learners can use these thoughtful recommendations to assess and pursue the development of flight instruction excellence. The National Association of Flight Instructors Board of Directors and CFI staff, totaling 303 YEARS of aviation training experience, share their thoughts below:

George Allen

Finding a good flight instructor is essential. Equally important but less discussed is how to be a good flight instructor (learner). Learning how to fly is a personally transformative experience. It is a marathon, not a sprint. Being in a good place in life with the right mindset is vital: patient, ready, and willing to learn. A good instructor can help stoke the flames of their passion for aviation but cannot give it to them.

Have students take charge of their own learning. Assign homework. Be prepared for each session. They should ask questions with solid curiosity. Be cordially direct. A good instructor will appreciate your enthusiasm, curiosity, directness, and preparedness.

Empathize and encourage them as they reach the inevitable plateaus, provide them with a safe learning environment to learn through experimentation and mistakes, and inspire and challenge them constantly to fly their best.

Aaron Dabney

1. Instructors need to concisely and clearly state why they teach. 'Passion' is a lazy answer. What is it that they REALLY want to pass along? I've never seen 'passion' save anyone's life.
2. Can you put into words the culture of their flight school?
3. You should be able to show a syllabus for both flight and ground training.

4. It is not a deal breaker if you're a new CFI. Somebody has to be your first student. But what kind of support and accountability is in place? Who is your leader or mentor? What does their experience look like? How hands-on are they?
5. Who maintains the airplanes? How long has that shop/mechanic been maintaining their aircraft?
6. What kind of insurance coverage do you and your school have?

JD DeBoskey

Choose a good instructor. Let's look at the verb and the adjective in this question.

The verb, choose: This implies the student pilot has a choice in CFIs, which may not be true at some flight schools. New students only sometimes have the background or experience to recognize that these assignments are less than ideal for their learning. The investment for flight training is substantial, so take some time to interview/research available training options. Essential questions students should ask would be:

1. What is the background and experience of the CFI?
2. What is the CFI's weekly availability for my lessons?
3. If I plan to fly 3-4 days per week, are aircraft and CFI staff available?
4. If the CFI and I don't "click,"...what happens?

5. How many training aircraft are there of the same type?
6. Is your maintenance staff at the airport? What is their experience level?
7. What is the school policy in case of an accident/incident?
8. Is mentoring available to me with folks in different AVIATION career tracks?

Questions like these would help students CHOOSE the flight school that works for them.

The adjective, good: What makes a good flight instructor? Being a good pilot and a good listener are both equally important.

Good Teacher: Knowing how to relate and share topics with each individual. A good teacher can relay information to students of different shapes, sizes, intellect, ability, and desire to learn.

Good Pilot: A good pilot can proficiently demonstrate all the maneuvers outlined in the applicable Airman Certification Standards. Being able to both "show and tell" a student the right way to fly is part of the bedrock of a good flight instructor.

Good Listener: A good CFI pays attention to both words and actions. Sometimes students don't know how to ask questions, and a good CFI can discern what is needed by 'listening' through observation.

Tom Dorl

Something that I have used teaching instructors and looking for desirable qualities for a CFI is in three large buckets –those are Humble, Approachable, and Credible. Considering asking the following:

Humble

- How do you provide constructive criticism and feedback to improve my learning experience?
- Please describe your background as a pilot and an instructor.
- What is your personal motivation to be a teacher and flight instructor?
- Describe your teaching philosophy to a private pilot, instrument student, commercial, etc.
- Why should I pay you to teach me how to fly when others are at this FBO, flight school, and location? Or why should I choose you?

Approachable

- What are your scheduling procedures—how far out should we schedule ground and flights?
- As a CFI, how do you approach teaching on the ground and in the air?
- Describe how you can provide a favorable learning environment
- Describe or give an example of your teaching techniques, procedures, and actions.

Credible

- Years being a CFI, what is your availability to fly and do ground training?
- Are you a Gold Seal instructor?
- How do you stay current and updated on the latest flight training issues, information, and industry changes?
- Are you a member of AOPA, NAFI, or other GA support organizations?
- Do you have a code of ethics you follow as a CFI?

Greg Feith

Sharing that learning to fly is an exhilarating experience! Being a pilot is an honor and a privilege, not a right! Thus, regardless of certificate or rating level, a student must be "all-in" and passionate about flying. Just going through the motions may enable you, in the long run, to "fly" an aircraft. Still, they will not possess the foundational skills, abilities, knowledge, and understanding necessary to be a safe, professional, competent pilot. Thus, when selecting a flight school and instructor, the student should;

1. Visit several schools and observe flight school staff's interaction with students, instructors, etc. You can learn a lot about the level of professionalism, the quality and character of individual instructors, and the commitment the school has to its customers;

2. Determine the student's preferred learning style to enable them to learn efficiently and effectively. Take a Discovery Flight with several instructors at one or more flight schools to experience the methods that the respective instructor employs and choose the person who fits your style;
3. Tell them if you need to leave for your next career step, make that the student "doesn't get passed around" to multiple other instructors, which results in a loss of interest in continuing instruction or even flying;
4. Talk to other students who are currently flying to see if they have a recommendation about a particular instructor, and
5. Flying should not feel like "a job" but rather an activity the student looks forward to because they know they will have fun and a great learning experience with their flight instructor. It is all about sharing the passion of flight!

John Gagliano

A good flight instructor is someone the student can learn from and admire. Someone who looks sharp is warm, friendly, intelligent, relatable, and reliable. Whatever those words mean to you, the student. Because everyone learns differently, some good instructors are unsuitable for some students.

The best instructors quickly identify how a student learns and gear lessons to fit the student's learning style. Although having a primary instructor is essential, flying with different instructors along the way is equally important because each instructor's technique and experiences are different. Student pilot needs to develop their own safe and effective flying techniques - learning from a diversity of experiences from more than one instructor is a crucial part of that process.

Adam Magee

1. Get a feel for student/instructor availability, or can another instructor share or provide a better match for their availability?
2. Logbooks, Syllabus, and record keeping - how do you ensure their training will progress and flow to avoid excessive redundancy and cost, especially given instructor availability and different instructors?
3. Will you also give comprehensive ground instruction and complete pre-flight and post-flight education in the classroom, or are you interested in flying?

Bob Meder

In interviewing potential flight schools to work with, try to determine whose interests they have at heart. The best instructors I have met and tried to emulate are those who revel in their student's successes and show genuine concern about their students' difficulties. Further, an excellent flight instructor will be able to share the truth about their student's performance, whether good or bad, while ensuring any critique is positive and presented in a way that the student will accept it.

Finally, the instructor must always be willing to take legitimate critique from their students while never lowering their standards. All in all, the best instructors are those who display the characteristics of a good coach, a thoughtful mentor, a reasonable authority figure, and an empathetic partner in the student's success.

John Niehaus

An instructor should be able to describe their teaching style is extremely important. The follow-up question is how does the instructor's style change based on the needs of the students?

Having taught many students who learn differently, knowing that an instructor is not a one-size-fits-all lecture/verbal teacher is essential. Trying to teach everyone can work, but sometimes it doesn't, and even more, it can slow or prevent the student from reaching their goal.

Paul Preidecker

Be prepared to tell potential students:

1. Describe what their success at becoming a pilot looks like to you.
2. What is your students' first-time pass rate on FAA practical examinations?
3. Are you a member of a professional flight instructor association?
4. Have you had any accidents or incidents? If so, what did you learn?
5. They have a busy schedule. What is your recommendation on days per week or days per month they should be scheduling lessons?
6. What are your fees for ground and flight time?
7. Please describe what the footprint of a typical lesson is.
8. If you are unavailable sometimes, can they schedule another instructor?
9. Why are you an instructor?
10. What is your maintenance department?
11. Where is the nearest FAA examiner (or DPE) located?
12. Can they bring an excited child, family member, or friend to a lesson?
13. Does your school do ground school first and then flight training? Or is it integrated?

Gus Putsche

When you are talking to a potential new student, here are a few things that will help both you and the potential learner know what to expect:

1. What are your goals and aspirations? What do they expect from you?
2. Do they have a timeline or other concerns regarding training?
3. What other interests do they have, such as hobbies or activities? This will help you find ways to relate.
4. Have you worked with any other instructors or schools?
5. What did you take away from that experience – positives and negatives?
6. How much time, weekly or monthly, do they have to devote to this process?
7. Their answer affects how long/expensive the training will be, which will help to manage their expectations.
8. How does the instructor determine that you are ready for a check ride?
9. Do they expect to be able to take the check ride as soon as you reach the minimum hours required in the regs? Explain why you desire safety, performance, and hours to determine when to take the check ride.
10. Diligence and hard work will make achieving their goals possible. They will accomplish something only a few understand.

Brian Schiff

When choosing a flight instructor, many learners must realize how much say they have. After all, they are paying. It is essential that anyone receiving flight instruction feels comfortable with their CFI. They don't need to know WHY the two may or may not 'click'--just THAT they do. Otherwise, they should seek a different instructor.

Too many pilots drop out of flight training thinking they are not cut out to fly, not realizing that it is because of an incompatibility with the CFI. Learning to fly should be a fun and comfortable experience. If you don't mesh well with or cannot provide both for a particular student, recommend that they change CFIs.

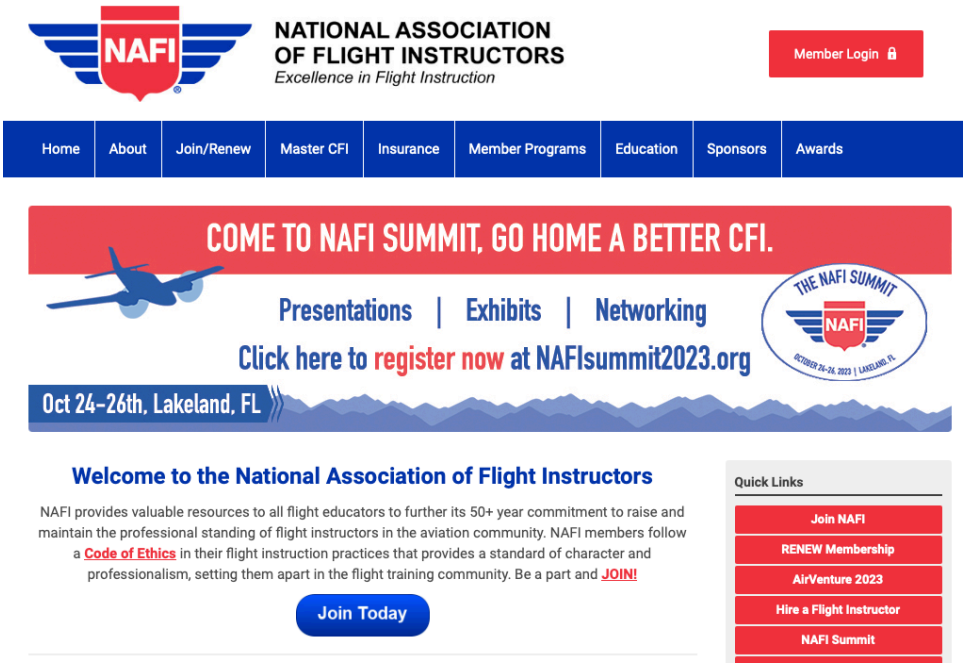
Victor Vogel

The Aviation Instructor's Handbook gives students great advice about choosing an instructor. You should evaluate your instructor behaviors and characteristics:

1. An instructor should motivate learners. More can be gained from wanting to learn than from being forced to learn. When instructors can show the benefits and purpose of the lesson or course, the learner's enjoyment and efforts increase.

2. We must keep learners informed. Instructors can minimize feelings of insecurity by telling learners what is expected of them and what they can expect in return. Instructors keep learners posted on their progress and give them adequate notice of examinations, assignments, or other requirements.
3. We, instructors, must always approach learners as individuals. Each learner has a personality that stems from the characteristics and interactions of its members.
4. A good instructor will give credit when due. Praise or credit from the instructor is usually an ample reward and provides an incentive to do even better.
5. We must criticize constructively. If a learner has made an earnest effort but is told that the work is unsatisfactory, with no explanation, frustration occurs. On the other hand, if the learner is briefed on the errors and is told how to correct them, progress can be made.
6. We instructors must be consistent. The learner becomes confused if the same thing is acceptable one day and unacceptable the next. The instructor's philosophy and actions need to be consistent.

7. Finally, we need to admit our errors when they occur. The instructor can win the respect of learners by honestly acknowledging mistakes. Learners sense it quickly if the instructor tries to cover up or bluff. If in doubt about something, the instructor should admit it.
8. Reference Aviation Instructor's Handbook (FAA-H-8083-9B, page 8-4)



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SAFETY ISSUE OR STYLE ISSUE? - PAT GROVES

Teaching for 52 years from CA CFI/CFII/MEI, BGI/IGI/AGI 9800 hours of dual given

It took me a long time to understand that not everyone would fly the same way that I did. After a couple of decades of instructing, I finally realized that there were a lot of excellent and safe pilots whose techniques differed from mine. My recommendation to other instructors is to stop and ask yourself this question before changing the habit pattern of a student: Is this an issue of safety or style?

For example, consider giving instruction to a pilot in a Bonanza – especially an owner who already has experience in their airplane. Some like to put the gear down immediately after turning on downwind, and others make a successful gear extension their last task before turning base. My practice would be a little different, but does it make any difference from a safety perspective?

When advancing the throttles on takeoff, some Bonanza pilots like to push the button in and then push the throttle in. Others want to twist the throttle all the way to the stop rapidly. There are arguments for each method.

Does it make a difference from a safety viewpoint? I think not; it's just a matter of individual style. So, before you endeavor to change a habit of an experienced student – during a flight review, for example – ask yourself whether it might be just a matter of style.

Following the checklists in the POH or AFM is always essential, but the manual doesn't cover many tasks and techniques. In that case, how you do those other tasks may be style or personal preference that does not impact safety.

NOTES:

LIGHTNING STRIKES AND TAFS - SCOTT DENNSTAEDT

CFI & Former NWS research meteorologist
www.EzWxBrief.com
www.avwxtraining.com

Lightning strikes

There are many observed cases of lightning strikes to aircraft inside or near clouds that had not previously produced natural lightning. Studies show that about 90 percent of lightning strikes to aircraft are initiated by the presence of the aircraft itself. The scary statistic, however, is that 40 percent of all discharges involving airborne aircraft occurred in areas where no thunderstorms were reported.

One of the more famous cases of aircraft-induced lightning is the Apollo 12 launch at the Kennedy Space Center in 1969. The Saturn V rocket was struck not once but twice on its way into orbit. According to the NASA report, other than these two strikes, no other lightning activity was reported six hours before or six hours after the launch. However, broken towering cumulus (Tcu) topping out at 23,000 feet with moderate rain showers were reported in the area at the time of the launch.

The Tiny Aerodrome Forecast

I impress my students when doing one-on-one training that TAF should stand for "Tiny" Aerodrome Forecast. The terminal area is so small that meteorologists consider a TAF a point forecast. It's not a zone or area forecast and should never be used as such. Forecasters will often hedge their bets because of this.

For example, when thunderstorms are more isolated or scattered in coverage, you may not see a forecast for thunderstorms in the TAF. The chances are just too low due to the small size of the forecast area. But you may see SHRA (rain showers) or VCSH (showers in the vicinity) as a placeholder to cover the threat of thunderstorms in these uncertain situations. Remember, showery precipitation describes a convective process.

So in these situations, it is crucial to read the forecast discussions. Forecasters that issue these TAFs also issue an Area Forecast Discussion or AFD. However, they don't discuss the retired aviation area forecast or the Graphical Forecast for Aviation (GFA). They discuss the various local weather forecast office's county warning areas (CWAs).

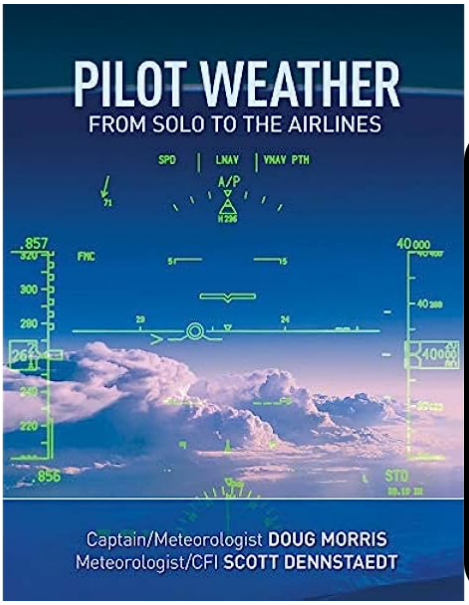
They are a great way to read what the forecaster is thinking and trying to assess this kind of uncertainty. The same forecaster that issues the TAFs for airports in their respective CWA produces the AFD.

They may provide insight into alternate scenarios and highlight the forecaster's confidence, especially regarding convection.

You can get these by visiting my progressive web app at www.EzWxBrief.com, www.weather.gov, or they may be available through some heavyweight flight planning apps like ForeFlight.

****Editors note from Gary "GPS" Reeves:***

Scott is my personal go-to weather expert. I highly recommend every instructor read his book "Pilot Weather: From Solo to the Airlines." Absolutely the best weather book for pilots, that I have ever read. You can buy a paperback or e-book version at:



Pilot Weather Book

https://pilotsafety.tv/PilotWx

His EXWxBrief is a great tool especially for new private and instrument pilots because it creates a simple way to plan departure times based on each pilots personal minimum and many more tools to simplify weather understanding and decisions:

EZWxBrief

www.EZWxBrief.com

MODELING, NOT MISTAKES - WILLIAM WOODBURY

CFI/CFII/MEI BGI/IGI/AGI for 40 yrs from CA
Woodburycfi@gmail.com

Do not underestimate the value of instructor modeling. Make sure to show students how to do a maneuver or procedure correctly before having them try it on their own. When they fail to do it correctly, demonstrate it to them again, have them try again, then show it again. Too often, students are left to try a maneuver repeatedly, reinforcing errors.

The more they can see the maneuver or procedure appropriately done and the fewer improper attempts, the sooner they will reach competence. Repeated modeling is critical to student success.

****Editors note from Gary "GPS" Reeves:***

One of my favorite sayings to share with new instructors is, ***"Practice doesn't make perfect; it makes permanent."*** Letting a student repeat errors only reinforces the errors.

This is also my biggest objection to Instrument students flying with safety pilots to save money by not paying for an instructor.

Using a safety pilot to substitute for a certificated instructor may reinforce or create new errors in the student that the CFII has to fix later. This may end up costing the student more time and money or even worse leave hidden problems that might cause an accident later.

Flying with safety pilots is the best way to maintain proficiency and currency after a student earns their rating with established good habits.

NOTES:

OVERSHOOT THE FINAL - ED WISCHMEYER

CFI/CFII/MEI, IGI/AGI for 40 yrs from GA

CFIs tend to ignore teaching the sensations of flight, particularly in base to final turn overshoots. Students are usually told, *"DON'T YOU DARE OVERSHOOT THE TURN TO FINAL,"* as a result, they will perform all kinds of extreme maneuvers to avoid an unknown threat.

The results can be stall/spins or a poorly executed steep turn that spirals into the ground. In a real overshoot, the safest course of action is, of course, a go-around -- but that doesn't let students (at all levels) see that an overshoot in and of itself is not a big deal.

On base leg at 500′ AGL, just under two miles out, fly through the extended centerline before turning final. Use only nominal bank angles, 20° - 30°. There's plenty of time to align with the centerline or do S-turns on the final.

Once the student has been exposed to the sight picture and sensations of a deliberate runway overshoot, inadvertent or potential overshoots will be recognized as a goof, not a crisis that requires drastic and life-threatening avoidance maneuvers.

Closely spaced parallel runways require a different strategy, but that's a different story.

Email:
E3@greatusermanuals.com
for information on the
Expanded Envelope Exercises®

NOTES:

DESCENT RULE OF THUMB - TERRY BARBEE

Flying for 10 years from TX

I had a corporate jet pilot teach me this "rule of thumb," and it works great, at least for me, to know when it is time to lower your gear, approach flaps, etc., and get ready to make your final descent to the runway for a picture perfect landing every time.

He said that most all approaches are based on a 3-degree glide slope. How high must you be if you are 3 miles from the airport? Take three times your distance; that will give you the altitude you need to be at to start your final descent to the runway.

Example: You are 4 miles from the airport coming in to land. 4x3=1200 feet. If you are 10 miles from the airport on a straight-in final to a runway, get down to 1200 feet (assuming there are no obstacles) by the time you are 4 miles out. Once you hit the 4-mile distance, configure your airplane like you usually would to make your final landing approach- reduce power, lower the gear (if necessary), lower flaps, and trim the aircraft for a decent rate of 500ft/ minute.

Just keep the airplane on the runway heading and a decent rate of 500ft/minute, and you will land on the touchdown markers nearly every time. It sets you up so beautifully all you have to do is fly the airplane to the touchdown markers for a perfect landing.

You are 6 miles out from the airport. 6x3=1800 feet. At 1800 feet, lower your gear, flaps, and power, set up your decent rate to 500 feet a minute, and fly the airplane on the runway heading for a beautiful landing.

In the actual world of flying, you must make minor adjustments to power and pitch to better land on the touchdown markers, but it won't be much. This method has certainly worked for me. I encourage any pilot to practice doing this, and you will find you mentally start using this rule of thumb all the time. I hope this is a helpful idea for other pilots.

A VERY EXPENSIVE IPAD - GARY "GPS" REEVES

CFI/CFII/MEI for 17 years from TX
FAA Safety Team, Lead Rep
2019 FAA National Instructor of the Year
www.PilotSafety.org

Students assume that they need to be good at multitasking, but the problem is that all the scientific studies show that people cannot multitask! Instead humans can only do something called task switching. This means that you really can't do multiple things simultaneously but are switching focus back and forth instead. This reduces efficiency, causes errors, and causes a lot of expensive aircraft repairs!

A study using MRI, Magnetic Resonance Imaging, found that doing just two tasks at once shows the Prefrontal Cortex, the part of the brain that makes decisions, splits in half, and switches back and forth. There is a delay when switching, and proved "multitasking" causes essential details to be forgotten and 3X more mistakes! [1.]

Trying to do more than two things at once is much worse, and this is one of the biggest causes of Decision Fatigue that leads to most pilot accidents.

Very simply, never let your students take their hands off the flight controls, look anywhere but outside, or do anything else while moving an airplane on the ground. Do not set a bad example by running a checklist, listening to weather, getting a clearance, programming a GPS, or looking at an iPad while taxiing.

Let's examine a real-life accident. The pilot got home late the night before from a work trip and got very little sleep. The next day he was scheduled to fly from Ft. Worth, TX to Tulsa, OK, for a family 70th wedding anniversary. The pilot's mom was texting him that they couldn't start the party without him and please hurry. The plane was pulled out and parked in front of the FBO. The iPad with ForeFlight was put on a suction cup mount on the left window.

As the pilot began to taxi, he tuned in the AWOS, the suction cup came loose, and the iPad fell. As he looked down to save the iPad, there was a large metal "bang," and the plane turned to the left and stopped.

At least the wing only hit the pole above the fuel pumps and not the pumps.Let's add up the factors that caused the accident and many others just like it. Fatigue, stress and, trying to multi-task are causes of Decision Fatigue and the poor decision to look down and reach for something in an airplane moving on the ground.

I know this to be true because it was me! Over >8,300 hours of experience made me over confident and I was subconsciously modeling what I had learned from my primary instructors

A low-time student pilot is more likely to focus on one thing unless they mimic the dangerous behavior of their primary instructors.

The wingtip of a C206 hit the pole directly above the fuel pumps. This accident was caused by multitasking and distracted taxiing.

I was so embarrassed that I didn't even report it to Avemco, my insurance company. I was much happier writing the $3000 check than calling to explain how their favorite safety expert had such a silly preventable accident. *I guess if you're reading this, they probably know by now.*

Model and discuss, with your students, how to avoid preventable accidents caused by Multi-Tasking and Decision Fatigue. ***Please learn from my mistake and share with your students why they should never do anything but focus on the outside while taxiing.*** The time saved multitasking isn't worth the risk.

To learn more about Decision Fatigue and the best way to use technology in reducing accidents, please visit:

Learn about Decision Fatigue

https://pilotsafety.tv/Accidents

Get MultiTasking Study

[1] *University of SoCal - Psychology School*

https://pilotsafety.tv/USCStudy

CFIS NEVER - NEIL SMITH

Teaching for 30 years from GA
CFI/CFII/MEI
N7302G@gmail.com

As a CFI or ATP, you never stop learning and teaching in one form or another throughout your career or life in aviation. Realize you can never know everything there is to know about aviation, and sometimes you will learn more from your students than you will teach.

Never take yourself too seriously, but be humble, patient, and kind. Anger or becoming visibly frustrated will stop the learning process immediately for the student. Remember, you were once in the same position as the student you teach today. As a CFI/ATP, you are there to encourage or inspire, not to teardown or demean.

Flying is supposed to be fun; use humor to break the tension for the student to re-establish the learning process and your enthusiasm for aviation.

Above all, never compromise safety. Never take any student's abilities or experience for granted and let your guard down. Stay ahead of the aircraft and students while fostering an environment where they feel in control of the aircraft and master their new skills. Let them FLY!!! How else are they going to learn?

All students progress at different paces/ levels. Example: If you have ten items to complete in one hour. Student A may finish in 30 minutes and student B may 59 minutes, it does not matter. The two students completed the task at hand in the allotted time. Student A is not necessarily better than student B, just each have a different way of processing information during the learning process.

NOTES:

CIVIL AIR PATROL SAFETY LESSON - DONALD BARNES

Commercial Pilot ASEL/ASES From OR
don170b@ipns.com

After the Civil Air Patrol Lost two Cessna 182s and crews 20 years ago, I was determined to find out how and why. Civil Air Patrol S.O.P. for C-182 on search is 2400 rpm, 15" manifold pressure, 10 degrees of flaps, and airspeed 90 knots.

Both aircraft impacted the ground nose down in a 150 deg left bank. See NTSB report SEA99GA058.

I have over 6000 hours P.I.C. in Cessna 120,150,170,172, and 182, and I only came close to getting one over on its back if I was doing spins, etc. I tried departure stalls, with and without flaps, ball-centered way out. Nothing would put it over on its back. Then I found the cause.

At, or above, 3000 feet A.G.L. I started a straight ahead partial power-on stall, then about 5 to 10 mph before the stall, began a roll into a LEFT turn; if the stall comes during the roll, after about 30 deg. of the bank, it will just keep going, even with a full right rudder. The only way out is to cut power and hold the right rudder. This will only happen to the left unless your prop turns the other way. It's more of a torque roll vs. stall spin.

The moral of the story is if you have to look at a moose, make all turns to the right.

P.S. This may cause L.O.C. in the left landing pattern crashes, as most pilots used to power on approaches vs. dead stick. Also, adding power with partial flaps will cause the hose to rise.

P.P.S. Don't do a falling leaf with partial power; that is how I found this trap.

****Editor's note from Gary "GPS" Reeves:***

This story is an excellent lesson and presented for general information purposes only. The pilot who performed this maneuver is very experienced and comfortable with falling leaf stalls and other maneuvers.

The editor, publisher, sponsors and, contributing authors of this book do not promote attempting this on your own.

There are excellent aerobatic and upset recovery courses taught by experts like Rich Stowell and others for those wishing to learn more.

CLARIFY INSTRUCTOR EXPECTATIONS - CHERYL JOHNSON

Private Pilot from TX
Studying to be a future CFI
ktusksat@gmail.com

The student, who in this case was me, and this instructor had known each other professionally for a little over a year, although not in a student/instructor capacity. This instructor was a commercial certificated professional pilot; however, not yet a CFI/CFII. As such, the instructor provided mentorship and guidance during my PPL study and was always available for questions. Following my PPL, I began instrument ground school. Concurrently to this, the instructor successfully acquired the CFI/CFII.

Due to my professional goals, I also required education in high-performance, complex, and glass panel-equipped aircraft. A Cessna T206 was made available to this instructor to instruct me on weekdays. The instructor took the time to draw up initial lesson plans for approximately the first week to get us started. You should know that I was not aware of the existence of these lesson plans. The first day, Monday, went well (as most first days do), with ground and flight training. I showed up on Tuesday

unprepared and blissfully unaware of this. There was an unspoken expectation from the instructor that I would read excessive airplane-related material the night prior. We had discussed reading, and I did complete several pages but only a few chapters. Feeling horrible about this error, I apologized profusely. I requested clarity on due dates for future reading assignments to avoid further faux pas.

Additionally, I explained that weekends were my only opportunity for bulk quantity assignments due to full-time Monday thru Friday employment. Unbeknownst to me then, I had gone rogue from the instructor's lesson plan on day two! On Wednesday, I arrived with dark circles under my eyes, along with every previously assigned page/chapter complete. While the instructor admired my determination and desire to fix what I perceived as a personal failure, the instructor was equally disappointed due to the outcome of the lesson plan(s). The instructor then assigned a lighter reading volume and provided Monday as the due date. We continued ground and flight lessons for the remainder of the week.

On Monday of week 2, I waltzed in all smiles. I discussed with the instructor the completed reading assignments and extra work (reading, videos, etc.) and brought up questions that had surfaced during my study. From that day forward, the instructor no longer assigned homework and said, "Keep doing what you're doing."

As such, the instructor opted to keep tabs on what I was studying and answer the daily questions I came prepared with. The instructor took the time to understand how I learned and structured training around my expanding abilities. Following our time together in the student/instructor capacity, I was made aware of (and shown) the first week's lesson plans and also found out there were no more. I inquired about the cessation and was told that after the first week, it was clear to the instructor that lesson plans would not work with me. The instructor explained that my strong internal motivation did not require a structured program but infrequent directional guidance.

According to the instructor, learning how I learned, then adapting the training was more beneficial to both of us. I have since earned my instrument rating and commercial certificate with two different instructors, both of whom had lesson plans. In both instances, lesson plans that didn't fit held me back. Luckily, one instructor recognized this and was able to adapt to my enhanced pace.

In summary, lesson plans are guidelines and student expectations must be clearly expressed. Allow the student(s) to show you who they are and adjust to what they need for each individual.

Some students need structured lesson plans and extra encouragement. Meanwhile, other students will drag the instructor, who must hang on and ensure the student stays out of a rabbit hole. The best student/instructor pairs are those who make it a partnership and a journey.

NOTES:

EMOTIONAL READINESS FOR SOLO - JAMES GUIDA

Teaching for 12 years from FL
CFI/CFII, IGI
jim.guida@gmail.com

I learned that the student needs to emotional ready to go solo and not use the solo experience as a confidence builder. I was working with my private pilot student on Pre-Solo flights. He was struggling with crosswind landings, but an opportunity arose where they were calm winds. He made three unassisted landings with me, so I felt he was ready to go solo. He agreed but had some hesitation on his part. I instructed him to make a 3-full stop landing, and if he felt uncertain and anyone landed, he was to return.

Well, he made three bounced landings. His first approach looked good, but he flared too high, causing the plane to bounce hard. His go-around was good. A second attempt was made, and it was a hard bounce. I radioed him with guidance, but that did not appear to help. The 3rd aborted bounced landing caused the tail to strike the runway. *I called 911* to have them on the field. Fortunately, he made his final landing with less bounce. The experience for him and me was hair-raising. I am now looking to develop a recovery plan to rebuild his confidence and keep his fears in check.

Allow more instructions on landings and consider bringing in another flight instructor for a "second opinion”

NOTES::

Use FAA WINGS - Armand Charbonne

Teaching for 6 years from CO
CFI-Glider

https://pilotsafety.tv/soaring

Use FAA WINGS exclusively instead of giving flight reviews. WINGS determines and documents that the pilot Flight Review is satisfied until a specific date, not via a CFI signature (liability?).

One day I got a call from a FSDO representative. He told me a pilot I signed off for a "Biannual (sic) Flight Review" violated some FARs. And that "the Instructor is required to review FAR's ....."

I replied that is odd because I only use WINGS to help pilots obtain current Flight Reviews. He looked it up, and that pilot showed a current Flight Review on WINGS. The topic suddenly changed, and we had a pleasant conversation about the great job the FAA is doing.

***Editor's note from Gary "GPS" Reeves:**

The FAA Safety Team Wings program is one of the greatest instructor and pilot tools to reduce aviation accidents and promote that truly safe flying goes far above meeting a legal currency minimum. It is proven that pilots who participate in the FAA WINGS program are safer and have fewer accidents.

That's one of the reasons Avemco insurance is not only the national sponsor of the program but, also gives discounts to pilots and instructors that are active in the program. Learn more about the insurance discounts at:

www.Avemco.com

I cannot recommend highly enough that all instructors not only share and use this program with students but, also *consider volunteering to join* as a representative for the FAAST Team and help make a huge difference in reducing accidents

***From the FAA Safety Team:**

The objective of the WINGS Program is to address the primary accident causal factors that continue to plague the general aviation community. By focusing on this objective, we hope to reduce the number of accidents we see each year for the same causes.

As you will see, it is not a simple "Award" program but is instead a true proficiency program, designed to help improve our skills and knowledge as pilots.The WINGS - Pilot Proficiency Program is based on the premise that pilots who maintain currency and proficiency in the basics of flight will enjoy a safer and more stress-free flying experience.

You select (in your Airman Profile) the category and class of aircraft in which you wish to receive training and in which you wish to demonstrate your flight proficiency. Requirements for each aircraft category and class include specific subjects and flight maneuvers. To ensure you receive a well-rounded learning experience, only certain flight activities fulfill specific credit requirements. More information about how these subject areas are selected is available on your MY WINGS page.

The program encourages an on-going training program that provides you an opportunity to fly on a regular basis with an authorized flight instructor. The program is most effective if the training is accomplished regularly throughout the year, thus affording you the opportunity to fly in different seasons and in different flight conditions.

Reviewing and refreshing your knowledge is just as important as actual flying. To meet this goal, we provide you many opportunities to complete online courses, attend seminars and other events, and participate in webinars.

Many 3rd party activities, such as those offered by AOPA, ASA, Sporty's, Gleim Publications, and others, qualify for WINGS credit and will indicate such credit on their web site. If you have a question about the WINGS Program, contact:

faasafety@faa.gov

Note that completion of any Phase of WINGS satisfies the requirement for a flight review. So not only will you complete a review of the most common weak areas that have led others to the accident site, but you end up with a flight review, as well! Learn more now at:

https://pilotsafety.tv/WingsInfo

From Patricia Mathes, Manager, National FAA Safety Team

"As the educational outreach arm of the FAA, the FAASTeam is committed to serving the General Aviation community, and making our skies even safer. Join the FAASTeam and help us make a difference!"

To create a free account and learn more visit:

https://pilotsafety.tv/JoinFAAST

TEST JUDGEMENT - LES ABEND

Teaching for 4 years from FL
CFI, Retired Airline Pilot
Featured Author - Flying Magazine

At one point during my airline career, I was bestowed the honor and privilege of acting as a check airman. Designated by the carrier's P.O.I. (Principle Operation Inspector), check airmen are responsible for ensuring that the standards of the airline and the F.A.A. are upheld. Although the position is not technically considered flight instruction, many instructional elements guide pilots new to a particular airplane or the captain's seat.

On one particular occasion, as a check airman, I was assigned to a new captain who had just completed his initial training on the B767/757 and was now required to fly 25 hours of I.O.E. (Initial Operating Experience). The first leg of our three-day trip was an evening departure from J.F.K. to Bermuda. Unfortunately, as was typical for Bermuda after frontal passages, the forecast wind would potentially exceed the B-757's crosswind limitation of 30 knots.

The new captain had thoroughly reviewed the flight plan data. All of the T's, and I's had been crossed.

If the crosswind exceeded our limitation when we initiated the approach, we had enough fuel to return to J.F.K.- our alternate.

After considering the situation, the new captain looked at me with a grin and said, "It's your leg." I responded, "So, captain, you're going to make me land in a nasty crosswind from the right seat?" He nodded. I immediately replied, "Okay, then. If you don't screw up anything of major consequence on this trip, you've already passed your I.O.E."

Why did I react in that manner? The easy part of a check airman's job is to evaluate procedures and functional skills, but evaluating judgment can be subjective. It can be not easy to test judgment, especially on revenue flights where the safety of passengers is of the utmost concern. So, it's a bonus when an ideal opportunity presents itself. Because this new captain deferred the flying to me, an experienced 757 pilot, I thought the decision to be wise, especially in light of the fact that an I.O.E. captain is under pressure to perform. I felt confident that if he were presented with similar circumstances in the future, he would not hesitate to say 'No' regardless of whether a particular flight would be conducted within the parameters of legality.

As flight instructors and check airmen, we should all consider opportunities to test judgment, even if it's just to present a hypothetical scenario.

TEACH WITH CONTEXT - JASPER BOLTON

Teaching for 2 years from CO
CFI/CFII/MEI
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During teaching and evaluation, provide context, state the assumptions, and tell learners why the information you present is essential through story-telling.

As a learner, I always felt I was missing the last 5% of something to make it actionable and integrated with my knowledge base. That 5% was almost always context, assumptions, and purpose for me. This is a problem I still encounter constantly as a learner; initially, I wrote it off, assuming the lack of context was a byproduct of being a beginner, but this trend persisted through my instructor ratings, add-ons, and endorsements. 9/10 times I was learning something new, the purpose/context needed an explanation, and in most cases, a five-minute conversation to discuss how this particular problem/solution came about and why would have helped tremendously.

Identifying the purpose, context, and assumptions is hard because - as instructors - we generally have a better grasp of the aviation body of knowledge than our learners.

Usually, the context, problems, and solutions seem apparent because we already know them, but our knowledge is only valuable if we can efficiently transfer it to the learner. Our challenge is approaching a well-known subject with a beginner's mind.

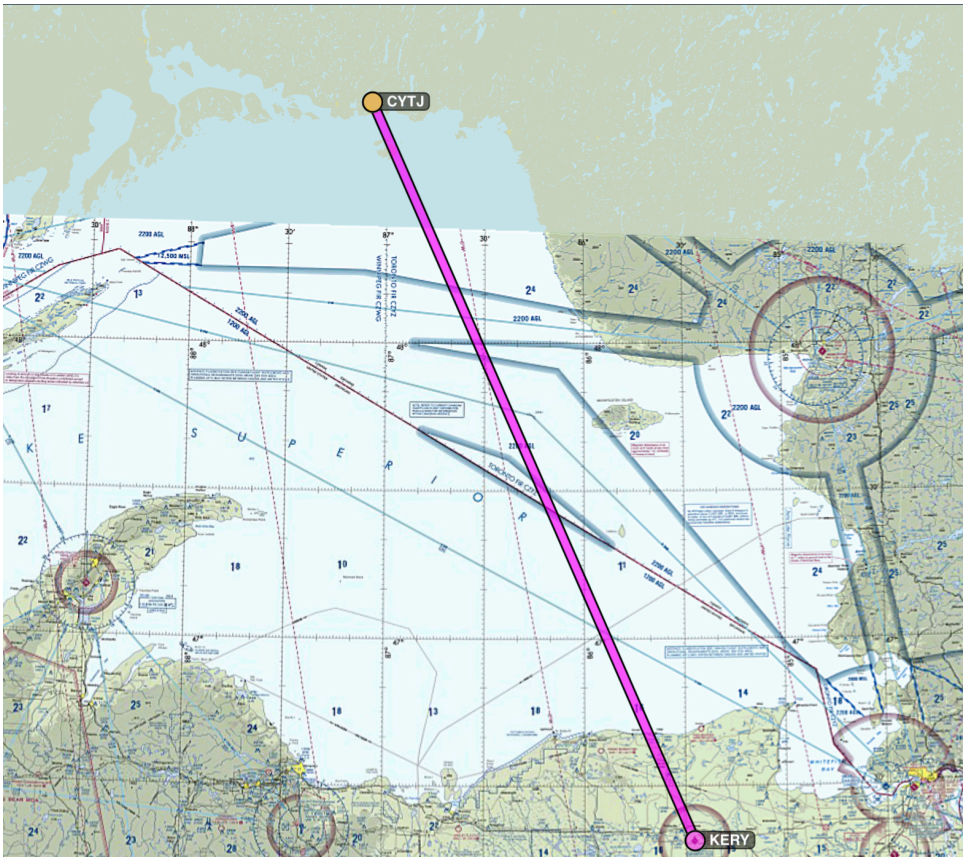
Two examples:

1. Visual Flight Rules (VFR). Visual Flight Rules are common operating procedures to manage risk, select courses of action, and evaluate behavior. The most important underlying assumption (and part of the legal requirement) of VFR is that we can look out the window and see stuff (Visual Meteorological Conditions), especially the ground. Suppose we can't look out the window and see anything or only a few things (Instrument Meteorological Conditions). In that case, the same rules won't work to successfully manage risk, select courses of action, and evaluate behavior. While that's obvious to us, the implications aren't necessarily obvious to someone approaching VFR and IFR for the first time. This difference affects almost everything we do, including; preflight planning and inspection, what equipment we have, legal requirements, navigation, communication, flying traffic pattern, avoiding other traffic, which routes we plan, where we fly, the control inputs we use to fly, the risks involved in our flight, etc. ad nauseam.

2. Evolution of Navigation Systems. (Disclaimer, I'm going to be a bit liberal with the physics in this example; the principle is what's relevant.) Under VFR, our primary forms of navigation are pilotage and dead reckoning. Using pilotage, we look out the window and determine position based on what we see. But what if we were going to fly across a body of water, like a Great Lake or the Gulf of Mexico (you can come up with other examples)? Suppose we were flying across Lake Superior from Terrace Bay Airport in Terrace Bay, Ontario, to Luce County Airport near Newberry, Michigan, in the middle of the lake. In that case, everything we can see looks like everything else! How could we help ourselves in that situation?

What if somebody in Newberry was playing music very, very, VERY loudly, and we could hear it from 100 miles away in the airplane? As the music got louder, we would know we were getting closer; if the music got quieter, we were going further away. Could we play the music on a radio station and we could receive that station in the airplane? The closer we got to Newberry, the more we could hear the music; the farther from Newberry, the worse we could hear the music. However, we can't see any land while over the water.

Even if we get turned around, we would know if we're getting closer to, farther from, or not changing range to the destination. What if we could invent a device that, instead of playing the music to us in the cockpit, could point at where the music is coming from? We've just created a rudimentary Non-Directional Beacon, and now we can point toward Newberry.



What if the radio station played different bands in different directions? Nirvana to the North, John Denver to the East, Lynyrd Skynyrd to the South, and U2 to the West; there will be some overlap. If we can hear "Smells Like Teen Spirit" just as well as "With or Without You," we must be northwest of the radio. If we can make our cockpit computer compare how well it can hear each band and plot that information with a needle, we just designed a rudimentary Very-High Frequency Omnidirectional Range (VOR) facility. With a stopwatch and some math, we can now identify - with a high degree of precision - where we are relative to Newberry.

We could continue the exercise in example two, inventing increasingly advanced navigation techniques, but the point is: purpose, context, and assumptions matter. We can present our learners with the right problem at the right time and include valid purpose, context, and beliefs. In that case, they can develop and retain more comprehensive (and practical) knowledge faster.

***Editors note from Gary *"GPS"* Reeves:**

Make sure during instrument training you block or disable all GPS signals on the Garmin or Avidyne systems and ForeFlight to teach them how to navigate only by VOR and to hand-fly a VOR Circle to Land approach using nothing but a timer and raw VLOC data only.

Students need your help to understand the MON System and why GPS isn't always available.

For More information on the MON System
https://pilotsafety.tv/MON

MON System Info

For More info on how to teach GPS Failures
https://pilotsafety.tv/InstructorVideos

Watch Free Instructor Videos

FF VS. VFR FLIGHT PLANS - GARY "GPS" REEVES

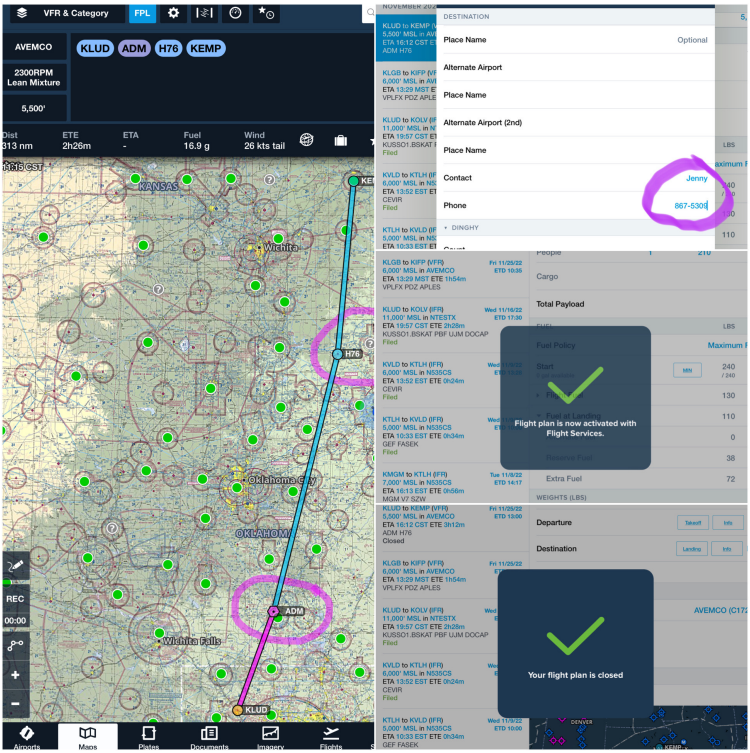
CFI/CFII/MEI for 17 years from TX
FAA Safety Team, Lead Rep
2019 FAA National Instructor of the Year
www.PilotSafety.org

VFR Flight Plans and Flight Following are two different services provided by separate groups that students get mixed up all the time. VFR Flight Plans go through Flight Service, the same group that provides weather briefings. Flight Following comes from Air Traffic Control like TRACONs, Centers, and Military controllers.

VFR Flight Plans are filed, opened, and closed online, by phone, using programs like ForeFlight with Flight Service. They trigger search and rescue efforts if you don't arrive at your destination safely. DVFR Flight Plans are also required to fly in and out of ADIZ, like the US border or DC SFRA and the 30nm ring of Presidential TFRs.

One pro tip is that when flying on a long cross country, check in with FSS every hour to update your position. This will reduce search and rescue time. In the flight plan pictured below (KLUD, ADM, H76, KEMP), I recommend checking in with Mc Alester Radio at ADM on 122.55 and again near H76(shown at the BVO VOR) using 122.4.

A second pro-tip is to add a contact name and phone number under Destination on your flight plan in case you forget to close your flight plan or your cell phone battery dies!



Filing VFR Flight Plan on ForeFlight

Flight Following is actually called Radar Traffic Information Service[2]. It provides pilots with traffic advisories to help prevent mid-air collisions if they request it. The key word is "radar." Only air traffic controllers with radar, or now ADS-B, can provide it. Pilots may only receive it from TRACON, Center, Military, and some Tower controllers *if they have radar.* It is safer for you to fly with traffic alerts and they handle all class C & D transitions automatically for you. Teach the best way to make initial contact is to wait for an opening, then say the facility you are calling, your type, tail number, and request Flight following.

The National Air Traffic Controller Association(N.A.T.C.A.)[1] recommends *"Regional Approach, Cessna 4941F request VFR Flight Following."* to minimize air time, allow controllers to get you a squawk code quickly, and get the details later. Even though not every controller can provide Flight Following due to workload or warn you about every possible conflict, they all want to talk to you if possible! Tell your students that even if one controller cancels or denies them Flight Following, they should always ask the next sector.

Remember to emphasize that they are completely different services. Filing a VFR flight plan does not guarantee a student Flight following because ***ATC NEVER SEES VFR FLIGHT PLANS!*** It is critical to teach that when you file a DVFR flight plan to transition through a presidential TFR outer shelf ring you are not

guaranteed the required flight following because ATC is extra busy ton those days. Never fly up to the TFR and demand Flight following five miles before penetrating the TFR. Show the student how to stay at least ten miles away and be patient or go one sector away, from the TFR, to ask for Flight Following, where they are less busy.

Teach your students to use both tools, VFR Flight Following for traffic advisories en route and VFR Flight Plans for search and rescue to get the best protection.

[1] *N.A.T.C.A. Guide to Flight Following*

https://pilotsafety.tv/FlightFollowing

ESCAPING ACCIDENTAL IMC - DON ORR

Comm/IR ASEL/AMEL from TX

I had an instructor that showed me something I had never seen in training. It was excellent, and I remembered it and practiced it occasionally. It is a potential lifesaver for non-instrument-rated students and pilots without instrument ratings.

In a 172, at a safe altitude, if you inadvertently found yourself in instrument conditions and you were not in mountainous terrain or near tall obstacles, like 2500-foot tall towers, you could:

1. Insure wings level.
2. Reduce power.
3. Obtain the best glide speed
4. Trim for best glide speed
5. Note heading, execute a coordinated 180-degree turn using the rudder only.
6. Hands off the control wheel. Altitude permitting. Roll out on the opposite heading.

You will descend below the clouds or exit the instrument conditions.

Obviously, with an instrument rating, you would have other options. I always thought this was a valuable tool when all else failed when you had enough altitude to execute it.

Keys were to use shallow banks with only coordinated rudder input. Thankfully, I never had to use it in a real-life scenario due to excellent training. It may be common knowledge for some instructors, but all should use and demonstrate this tool.

NOTES:

CAN YOU SEE WHAT THEY SEE? - ANONYMOUS

Teaching for 5 years from MD
CFI, AGI

I had just demonstrated an emergency approach over some farmland in the country, then climbed back up to altitude and let my student perform the maneuver. While focusing on watching for traffic and my student, I lost track of the reference point on the ground while I was talking through altering the flight path to arrive at the correct altitude as he circled the landing spot to set up for a downwind entry. I mistakenly thought he was setting up for an entry on the upwind to make a downwind landing and made him go around and try again. The problem was the field looked the same from both directions. After initiating the go-around, he told me it would land in the wind. I apologized and let him try again. During his next attempt, the same thing happened. I lost track and thought he was setting up for a downwind landing. This time, however, he pointed out he was doing it as previously. I apologized again and let him continue his approach.

I discovered that in a shallow back from the right seat, it is very easy to lose the reference point when you cannot see it for a short while when the surrounding area looks the same.

I thought I could find it quickly when he approached the downwind target point, but I could not. In the future, I would choose other reference points further out that I can track from the right seat in order reorient myself and maintain situational awareness.

NOTES:

LEVEL THE WINGS! - MIKE WINDOM

CFI/CFII/MEI, AGI for 54 years from FL

The student was a rated Private Pilot that had not flown in several years. He and I flew together for about 7 to 10 hours including both Night and Simulated Instrument time to get him back up to speed and comfortable. However, we had not yet made a long cross-country.

On December 19, 1970, at approximately 8:30 pm, we left Destin, FL, in a Cessna 182 for a return flight to Atlanta. On board is a Non-Current Private Pilot and his girlfriend, plus a CFI (who is current). It was a Beautifully Clear Moonless Night with Light Southeast Winds. Departure from KDTS was much later than planned, and KDTS was using Runway 14 to the Southeast toward the Gulf of Mexico.

The Pilot Flying was a Private Pilot SEL whose experience, Solo, and PIC Time is Unknown. The pilot had Approximately 5 Hours of Dual in the Previous 3 Months, including 1 Hour Night and 2 Hours of Simulated Instrument.

The Pilot in Command (me) is a 25-Year-Old CFI with Commercial Airplane SEL; Instrument Rated: CFI Airplane - SEL and Instrument. My Initial CFI was Issued on December 24, 1969 (about a year earlier).

I held a Current 2nd Class Medical: had approximately 1,000 Total Flight Hours with 700 hours as a CFI: about 25 Hours in the same aircraft: 22 Hours Total Night Flight Time - Night Current: 70 Hours Total Instrument Time, Actual and Simulated - Instrument Current.

We took off to the Southeast and over the coast with the Private Pilot flying. I told him to start a climbing left turn to the Northeast and home when we reached 1100 feet MSL. At the time of this event, there was no Altitude Reporting or ADS-B out. So, Eglin Departure may have had a primary target on their radar. As we were climbing past the shoreline, I bent down to get the frequency for Eglin approach.

As I leaned over for my flight bag between the seats, things did not sound right or feel right. The noise was too loud, and I felt pressure on my chest. I looked up and saw only TOTAL BLACK; NO MOON, NO STARS, NO LIGHTS BELOW. I looked left at the panel and saw that we were in a Steep Descending Left Turn of about 45 degrees, the speed was increasing, and the altitude was decreasing between 1000 and 1500 FPM. I yelled at the pilot to "LEVEL THE WINGS" (no headsets back then). He responded with, "THE WINGS ARE LEVEL ." I yelled, "MY AIRPLANE' and took control, leveling the wings, pulling power off, and reducing the dive. The altitude I remember seeing on the altimeter when I initiated the climb was 300 feet MSL.

I kept control until we were established in the climb and headed toward the shoreline. I gave control of the aircraft back to the Private Pilot and checked in with Eglin. They did not ask any questions as they probably did not even know what had happened and how close we came to going swimming. The trip back to Atlanta was very quiet, and I remember thinking, "How would the girlfriend, in the back seat with a cast on her leg, be able to get out of the airplane when it was in the water?"

Lesson learned: At all times, especially at night or when in Instrument conditions, try to minimize movements and complete as many tasks as possible when straight and level. I should have turned the radio frequencies before we started taxiing away from the ramp.

NOTES:

***Editors note from Gary "GPS" Reeves:**

This is a classic example of why Autopilots should be used and taught more, not less, even in private pilot training.

1. Students are required to understand and demonstrate installed autopilots to pass an FAA check ride.
2. Students will use it after they leave training anyway, incorrectly on their own, or correctly if you teach them how.
3. It is the best way to avoid unusual attitudes in IMC and can be the best tool in emergency recovery

For more information on teaching and using autopilots:

https://pilotsafety.tv/autopilot

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CHECKLISTS ARE NOT ENOUGH - ANONYMOUS

Teaching for 30 years from TX
CFI/CFII

Our emergency checklists are good but are incomplete. The accumulated knowledge about each aircraft would exceed its useful load.

1. Instructing in a C-150 on a HOT/Humid MS day, the engine on climb-out suddenly dropped RPM and power. Checklist - mags - both, fuel ON, carb heat made no change. Leaning the mixture was what made things better. Problem - the carb control cable in a C-150 had disconnected from the air valve from the exhaust manifold. It fails to full carb heat as a "safety" measure. Leaning the mixture got us back to about 1900 RPM and a slow descent back to the runway with no other issues. So there may be better solutions than the checklist of FULL RICH. On a hot day, the mixture may already be too rich.
2. Instructing a friend's son in a C-175 on climb-out from a short strip in an urban area; at about 250' AGL, the engine suddenly lost all power. While turning for the least lousy crash landing spot, checklist items were done, and nothing helped. Then I tried what shouldn't have worked. (Hey, when nothing is going right by the book, try anything not in the book) I pulled the throttle OUT and shoved it back in. That got a spurt of power. OK, if something works, go with it.

By rapidly pulling and pushing the throttle, we got spurts of power and went back around for a downwind landing on the departure runway. Problem - In recent work for a fuel line replacement, the metal barb sheared the inner hose liner, resulting in a "flap valve" that shut off fuel flow under full throttle conditions once the carb bowl emptied. Again nothing on the checklist for power failures says to pump the throttle off and on, but it worked likely and saved two lives and the airplane. Prevention? If you know the aircraft just came from recent maintenance, the first flight is a TEST flight. It could be wise to burn a little fuel for several high-speed taxi runs to check power and control operations.

Remember, the emergency checklists cover the most likely causes of the problem, not ALL of the causes of the problem. What to do differently is NOT keep all the accumulated knowledge as "trade secrets," as all pilots tend to do.

Captain Sully and the Sioux City incident show there is more to emergencies than the books can cover. FLY the plane, but try what you can. And once it is over, let others know what worked and what didn't.

NOTES:

DON'T LOSE THE FUN - WILLIAM HAMRICK

Teaching for 4 years from IL
CFI/CFII, IGI/AGI
willhamrick@hotmail.com

My student was older, mid 60's. He had a lifelong dream of learning to fly but, thought it was something he could never do. He flew regularly. His progress was slow but progressing steadily until I noticed him having a learning plateau. What made this different was that it wasn't just one maneuver but an overall plateau. I tried to switch up what we were working on for a few lessons, but something was different.

He would always come prepared for lessons and had lists of questions each time. I noticed that his list of questions started to be shorter as well.

We talked, and he seemed just as excited as before outwardly, but I finally realized he had been putting in so much work to study, come prepared, and do a good job that it started to feel more like work and had lost much of the fun. He was a student fulfilling a lifelong dream rather than someone looking to do this as a career. When he showed up for his next lesson, we sat down and, he pulled out his list of questions.

I told him to put those away because we would not follow the syllabus today. We flew to Wisconsin and circled a lake where his brother had a house. He took pictures and we just flew around.

His goal is, after all, to earn the certificate to fly for fun. It taught me a valuable lesson to tailor my teaching style to students' needs. People are flying for various reasons, and I now know it is essential to remember that. I hold each student to the same standards, but they can still follow different paths and lessons to get there. I wish that I had taken more time to truly understand the motivation of my early students. As a new instructor I was hesitant to stray from the syllabus.

NOTES:

SIMPLIFY IFR TRAINING - DAMON OVERBOE

Future instructor from MO

I was a VFR Private Pilot. Before this, the trainers I flew in only had VORs, and with my tablet for situational awareness. My Private Pilot instructor was teaching me IFR, but I was his first instrument student. He may be able to tell the story better than I. But, on our first flight, we looked at a few plates and then went out to fly them. We flew an RNAV, an ILS, and a VOR approach. Our plane had a GTN 650, which was still new to me* and I knew nothing about what I would do for instrument. There are several things we learned from that.

1. Simplify the first lesson. Pick just one type of approach, RNAV, since it's the easiest.
2. Take the tablet away from the student. Lay out printed paper charts showing the airport environment. We have two runways, so 4 RNAVs that do a great job of covering a wide, full circle around the airport. Take a toy airplane and talk through what's going on there. Then, have the student use only one navigation system (the GTN650) and the paper plates. Reducing the number of new things to learn simultaneously would have helped me tremendously with situational awareness.

3. Before even flying an approach, knowing how to fly a stabilized approach is big. I didn't know how to do that. I flew VFR patterns, made many adjustments to the power, etc. When my instructor realized I was having issues holding the donut on approach, he called that out. I then figured out that I needed to experiment without foggles; I climbed to 6000′ away from the airport and then just worked on configuring the plane into a descent. Ten degrees of flaps, what power settings did I need for a 450-500FPM descent? 300FPM? I figured I needed to know that because those were the descent rates I would likely need based on being in the white arc and my given ground speed, often around 75 knots, as I had noticed in a 172 and a PA28. He has adapted that and will teach this before even having a student fly an approach.
4. Later after my instrument rating, when I was "teaching" a rusty CFI/CFII that was also helping me work towards commercial, I noticed she was overcorrecting, both in pitch and course. I had her do the power setup/config mentioned in #3. I then had her pick a distant object about 20 miles away. Fly towards it; then, put us in a half standard rate, turn to the right for 3 seconds, and then look up.

Seeing how far off of the nose that target moved was an eye-opener for her. We aligned again, and I asked her to put an almost imperceptible amount of roll in, just enough to wiggle the airplane on the horizon on the AI, get one wing barely above, one barely below, and hold that for 3 seconds. Then look up. Most approaches are 10 miles or so after the final approach fix, so using a 20-mile target is probably unfair, but it still helped drive home how small corrections can still make big differences. She said she would adopt these (#3 & 4) with all of her future students. Both felt they also made a big difference for me; when I "Got" these, my approaches became very easy.

***Editors note from Gary *"GPS"* Reeves:**

Damon has some great insight from a student's perspective. I also know that every CFI and student will find learning easier if they know how to work the GPS unit in detail *BEFORE* getting in the airplane. Reducing the "new" workload and distractions can make mastering other tasks much easier and safer. An ethical instructor feels obligated to master GPS systems before trying to teach them to others.

If the instructor makes mistakes or doesn't fully know the system it causes distractions and teaches the student how to make mistakes.

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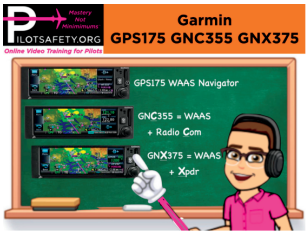

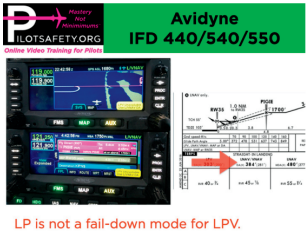

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TEACHING LANDINGS - ANONYMOUS

Pilot for 6 years from CA

When I was a student, I was struggling to learn how to land a plane. I had 16 hours in my log book, and my difficulty in landings was holding me back from going solo. Flying out of our local field, which was uncontrolled, with a tight runway that was 50 feet wide and 2000 feet long, had a lot of advantages, but learning to land was not one of them.

We were the only airplane in the circuit on the day in question, so it made what happened next possible. The instructor, out of frustration more than anything, wanted to try something different. So, I would fly the touch and go; as soon as we were airborne, he would take control and fly a tight pattern. He would give me back control once we were back on short final, perfectly configured for a stable approach. I would land the plane, perform the touch and go and then we would repeat.

We did ten touch-and-go's in an hour, and I had my landings dialed in! I did my solo flight on the next flight and still finished my rating in 45 hours. I have been flying now for six years and 900 hours later, and this is still the best lesson I have ever had.

If you have a student who is not picking up a skill, instead of trying the same thing repeatedly, it's essential to break the skill down into the smallest pieces so they can master it piece by piece.

NOTES:

LETTING THE ENGINE QUIT - TOM CONTE

Teaching for 40 years from TX
CFI/CFII, IGI/AGI

I was asked to ferry a PA 28 140 from FL back to its home field in the northeast. The owner also asked if I could take his son with me so he could log cross-country time. The forecast indicated strong tailwinds above 10K feet, and I decided to take advantage of them. Being a glider pilot, I used thermals to get the Piper above 11.5K feet, and I aggressively leaned the mixture to get the most power from the engine.

When it came time for the descent, I asked the student to do it. Not having flown above a few thousand feet with his other Instructor, he needed help understanding the proper use of the mixture control and pushed it all the way forward. I knew our position from the airport and had plenty of altitude, so it was an excellent time to create a dramatic lesson if the engine quit.

Sure enough, it flooded and stopped producing power. The student didn't catch it at first, and after a while, I asked him to look at his instruments. I questioned him why the oil temp was so low. I told him that the engine wasn't producing power.

Again, I realized that we still had plenty of altitude, so I allowed him to try to figure it out. Finally, he restored the mixture control to a lean position, and the engine re-started. The student learned two things, first, proper mixture control and operation, and second, ***as an Instructor, I will allow you to make mistakes so you will always remember the lesson***.

Back then, the POH didn't have a engine leaning schedule, so the student didn't realize how important it was at that altitude. I would have taught and emphasized to the student more about the correct operation on the way up to the cruising altitude

NOTES:

LEARNING FROM AND SHARING YOUR ERRORS - R.C.

Future instructor from WA

This is not a training story, but it has lessons worth teaching. I had just come back to flying after a several-year hiatus. My girlfriend and I decided to take a trip to W10 for lunch. For those unaware, W10 is a 2500x25′ strip in the middle of dense, tall forest. Even though I was at less than 100 hours PIC at this time, I felt alright going in there, albeit for a couple of go-arounds.

When it was time to leave, I had lingering doubts about which direction to depart from. W10 is an airport that, terrain-wise, greatly favors Southerly departures, as the Northerly departure takes you into rising terrain with tall trees just past the runway end. However, winds today were out of the North. Having never performed a tailwind takeoff, I decided to stick with what I knew and depart to the North.

It's incredible how quickly 2500 feet of runway can vanish behind you when those trees loom ahead. We took off, the treeline seemed to stretch a bit taller in hopes of meeting us. Instinctively I began to pull back a bit harder on the yoke, trying to nurse a bit more climb rate out of the plane. The slightest squeak of protest came from the stall horn, and I relaxed the pressure as we passed over the treetops.

Throughout this experience, there were multiple points I could have stopped, reassessed the situation, and planned a better course of action. I could have contacted my instructor or someone with more experience operating out of W10. I could have aborted the takeoff as my concerns built. Things worked out, but there's every chance they might not have.

Reassess, reach out, don't be afraid to say you're uncertain about the situation.If you have a student who is not picking up a skill, instead of trying the same thing repeatedly, it's essential to break the skill down into the smallest pieces so they can master it piece by piece.

******Editors note from Gary "GPS" Reeves:***

The best instructors always share their mistakes with others. Just like this book will make you better by sharing experiences from the contributors, you can share your experiences with learners. Admit your mistakes and tell the student what you learned. Not only will it be effective, but it will also help to know that when they make mistakes, it's ok because even their perfect instructor has to.

One of my favorite stories is how I landed a Cessna 182 gear up even though I used a written checklist. Showing multiple factors like the owner who didn't do required maintenance, me not supervising the student preflight, the tower giving multiple instructions and changes during closed traffic, and Decision Fatigue from teaching four lessons in one ten-hour day is how most accidents happen. Accidents rarely happen to good pilots if only one thing goes wrong.

Two good things came out of that experience.

1. Using the new Gary Propeller Braking System, I demonstrated the best short-field landing ever, stopping in less than 100 feet.
2. I got to share it with you so you don't have to make the same error!

Gary **"GPS"** ***(The Guy in Pink Shirt)*** Reeves
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WHERE ARE WE? - RON KLUTTS

Teaching for 12 years from CA
CFI/CFII
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A mutual friend put us in touch as we both worked at the same company. I had recently gotten my CFI and was looking for students.My student was flying once or twice a week as we were progressing to cross country training after his solo. He was an enthusiastic avgeek and had a habit of getting distracted with the sheer magnificence of being in the sky.

We left PAO and headed NE. With the busy airspace to navigate around he wasn't on top of his navlog like he should have been and with a few bumps he was taking too much time to trim the plane for level flight.

The bumps got him off course a little and he didn't notice and after a few minutes we were about 30 degrees off our intended heading. I asked him where are we and where are we going? He stammered a little and said "Ohhhhh" It's a sea of squares out there as he saw all the farmland.

I asked where is our checkpoint? It was a large untowered field and generally easy to spot. He pointed straight in front and said it should be out there. Really? Are we on course? No was his answer, so I asked can you find the airport?

He could not find it as it was passing off to my right side. So we had a good ground lesson afterwards about the importance of following the navlog and checking your heading to stay on course and not assume what you are trying to fly to is somehow always in from of you. Spend more time teaching the basics of the navlog and focus on how to calculate the various fields while on the ground so it is easier in the air.

NOTES:

LIKE A ’57 CHEVY - SCOTT BEADLE

Teaching for 20 years from TX CFI/CFII/MEI, IGI/AGI

Give them a gun sight like the 57 Chevy.

This student had a lot of difficulty on his steep turns. He would constantly roll past 45 into 60 degrees of bank which was much harder to control. I saw that he just had the wrong sight picture in his mind, and I thought of the sighting devices on the wing of aerobatic airplanes. I realized that he needed a HUD, so I built him one.

I used 1/4 blue painter's tape to mark precisely 12 o'clock and a carpenter's square to mark 45 degrees left and right bank angle. We took off, and he could instantly see what the proper bank angle would look like. We did several steep turns before landing and tearing the tape off so he would re-do the maneuvers without the training aid. Once he could see and feel the correct attitude, he could fly within the PTS.

Since then, I have used this trick on many students, especially students flying their first few hours. Using the tape to mark precisely 12 o'clock helps them see the small changes in yaw much easier when they are overwhelmed by everything for those first few lessons.

I also mark a few pitch marks so they can see their nose up and down and reference that for later lessons.

Another maneuver where this helps is eights on pylons at the CSEL level. Using the tape to give a pilot a gunsight for pylon turns dramatically helps. Use the tape to mark EXACTLY the aircraft's lateral axis as the pilot sits in the seat looking out as well as the horizon from their seat height. Then make pylon turns to the left and right before combining them into eights.

The Gunsights on a 57 Chevy Bel Air Coupe

First real IFR flight - Michael Williams, DO

Private Pilot from TX
mdwilliamsdo@msn.com

Kevin and I started IFR training nearly simultaneously in 2022, I in my Mooney and Kevin in his Skyhawk. Kevin was just slightly ahead of me in his IFR training, primarily because of how much easier it was to fly the Cessna in the IFR environment. He had bought a Cessna 172 with another friend, Doug, a couple of years earlier, and both had earned their Private Pilot Certificates and their sons. They even had an off-airport emergency landing after the engine blew a rod...but that is a different long story.

Kevin & I helped each other throughout our IFR training. We would study the books and discuss IFR rules. We also frequently flew safety pilots for each other to practice approaches and prepare for our check ride. Kevin and I both plan to earn our CFI at some point. Early on during my first safety pilot flight with Kevin, I told him, *"No wonder you are almost ready for your check ride; your Cessna moves so slow, compared to my Mooney, that you have all the time in the world to set up for approaches. We should have time to order PIZZA.!"* When Kevin flew safety pilot for me in my Mooney, he remarked he could not believe how busy

I was at the Final Approach Fix. I had to pull power, drop flaps and gear, fuel pump on, mixture rich, prop full, and most importantly, Slow Down! I eventually realized the speed of the Mooney was a big part of my problem learning to fly IFR. So, I decided to turn my Mooney into a Cessna by slowing it down early. Pulling power well before the final approach fix and getting dirty & slow like a Cessna made it much more manageable. Doing that at the FAF was too busy and distracting, with little experience.

Unfortunately for Kevin, but fortunately for me, his first check ride ended in a continuance due to several mistakes. We debriefed after his long flight home, and both learned a lot. We flew to the testing airport and repeated the good and the bad. Thanks to Kevin going first, I learned a lot which helped me tremendously, and I credit him and, of course, my 2 CFIIs for my smooth but very intense check ride. Our DPE was a Marine fighter pilot and now flew for America. He was tough but great. The two-and-a-half-hour oral part of the exam was more classroom-like than an inquisition. I even taught him a thing or two. During the flight portion of the examination, he pushed my limits to the max. I was not perfect by any means, and by the last approach, he was failing my steam gages until, I swear, I was down to only a whiskey compass for that last approach!

But, following my check ride, I felt so well examined that I was confident that I would always be a safe IFR pilot with continued practice.

Now, let's back up a couple of weeks before my IFR check ride to Kevin's second chance IFR check ride. He, of course, did great, especially after all my great safety pilot work in his Cessna. He was very calm and flew perfectly every time I flew safety pilot with him, even before the continuance. He just had a brain fart that day due to nerves and never really had a big issue. So, with the ink still drying on his new IFR rating, he called me a week later. *"DOC! The weather is perfect, IFR.....We need to go fly in it for REAL!"* What could I say? HELL YES! Like many IFR students, neither of us had much, if any, real IFR time, just simulated under the hood. An opportunity to fly in the soup sounded great to me, and Kevin was very anxious to put his new rating to work. We were like two kids with a new toy!

We quickly met at the airport and pulled out his Cessna. The ceilings were 1000 in light rain, 3 miles vis...not so bad, at least it didn't seem too bad at the time. Some stronger cells were on radar, but not too close, so we figured we could return quickly if it got worse. Besides, this was a putt-putt Cessna...not a big deal. I would never attempt such a flight in my Mooney. This was well below my single pilot personal minimums, but I was not worried...I should have been, but we are young and bold.

I am only 64, and he is in his 40-something, but we are young at heart. I might be a little daring at times. My wife and I started skydiving at 60.

We got to the run-up area and prepared for our first real IFR adventure. Kevin filed the IFR flight plan on Foreflight and called for clearance and release. Busy signal, redial, busy, redial, busy. *"Geez, is it really that crazy on a rainy afternoon?"* I said. Then Kevin looked again and said, *"Dang, I've been calling the wrong number!" "You're not instilling very much confidence at this point, Kevin!"* I exclaimed.

Clearance received and release given. Runway heading and contact DFW Approach control. To help with CRM, I was pilot monitoring and working the radios, so Kevin could concentrate on aviation and fly the airplane. While all that transpired, unknown to us, the ceiling had slowly lowered to around 600 AGL, and the pillow case came down and covered the little Cessna. Immediately, the rain danced across the windshield, and the clouds swirled about in every direction. In a week from now, Scott Perdue of Fly Wire will post a YouTube video about this very scenario (I later wished he had posted it a bit sooner). Scott stated that the first 5 minutes after entering IMC, the brain could go nuts with sensory overload and create severe spatial disorientation; man, was he right!

Sitting from my non-hot seat position, it was almost surreal and not disorienting for me at all.

Or it was my superior Mooney experience, or I was too stupid to know better. Anyway, I contacted Approach, and he immediately gave us a turn to 180 and climbed to 3000, Direct. OK, easy-peasy. I jotted the directions down, repeated and Kevin turned on heading. The Cessna Slowly climbed to 3k. I monitored the panel as my job dictates and noticed Kevin was very atypically stiff as a board and had a death grip on the yoke. *"Kevin...You OK?" "YES, but THIS IS NOT THE SAME! This is So Different!"* As I stated before, I had flown safety pilot with Kevin in sunny blue skies many times, and his relaxed manner and skills had always impressed me. He was always cool as the Fonz, no matter what I threw at him, but now he looked like Don Knots in "The Ghost and MR. Chicken!" He repeated, *"This is not the same...This is not the same!"* repeatedly, like a yoga mantra, as he stared into the dancing rain and spinning clouds. I said, "I understand, but you must get on the instruments and stop looking at the pretty clouds." I repeated, *"Are you OK?" "Yes, but this is not the same..."* Again, I said, *"I understand, but you are in a Left bank."* In total disbelief, Kevin replied, *"I know, but I don't feel like it!"* In my best pretend CFII voice, I then said, ***"I don't care how you feel; GET ON THE INSTRUMENTS AND LEVEL THIS AIRCRAFT NOW!!"*** I was never nervous or stressed, that I recall, but that is probably due to my superior Mooney, skydiving, Aggie, and doctor training. Or was I just too dumb to know better?

I elbowed his arm a couple of times to shake him back to IFR reality and thought I would lighten the mood a bit. I told him, *"Kevin!... As long as you don't FART, we should be just fine."* He snapped back, *"I couldn't FART if I wanted to...MY ASSHOLE is too TIGHT!!"* We both laughed, and he quickly calmed down, transforming from Mr. Chicken back into Arthur Fonzarelli (The FONZ). We ultimately had to return to our home airport as the heavy cells were building and not fading as we had hoped. We shot the RNAV 36, and we were relieved to get ground contact just past the FAF and soon broke out at 600 AGL to land easily. In all the excitement, Kevin forgot to close the IFR flight plan and got a call a little later. Not my fault; he was PIC, and I was just the safety pilot! ATC was very understanding.

They say adversity teaches wisdom. We gained a lot of wisdom that day and got chastised by several of our OLD, not too Bold, IFR pilot friends and our CFIIs. We were never in any real danger, but we should not have attempted our first "REAL" IFR in such bad conditions. So, the next day, with much more newly acquired wisdom, we repeated the performance, but this time, in 2000 ft ceiling,10-mile visibility, with much less drama or trauma. Overall, we still earned our IFR wings that stormy cloudy day and wore them proudly.

Just a little bug? - Michael Williams, DO

Private Pilot from TX
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One Saturday afternoon, I was talking to a CFI friend in my hangar when I saw a little bug fly in front of our faces and then directly into my Skyhawk's pitot tube like she owned it. I would find out later that, unknown to me, she had built a little condominium in there. I quickly turned on the pitot heat to try to run it out, but I never saw it leave, so I covered the pitot with its cover like it should have been. The following day, I was Teaching my wife some basic student pilot stuff and letting her depart. Taxi and run-up were uneventful, and I made the call *"Skyhawk Departing 18."* My hammer was cocked because of the little bug incident the day before, but I always call out airspeed alive when starting my takeoff rollout... I soon noticed it wasn't. I watched a few more moments and said, "WE have no airspeed ABORT!" Joann immediately said, *"Your airplane,"* and threw her hands into the air releasing the throttle and yoke simultaneously. I responded, *"MY airplane!"* and took the controls. We were breaking the ground when I pulled the power to idle. We touchdown safely and softly, so I called on the CTAF *"aborted takeoff, exiting Delta."*

On a good note, Joann got to practice or at least see an aborted takeoff, my first in over 700 hours of PIC time. After fighting stubborn painted-over screws while waiting for my A&P to arrive, we finally got the pitot tube off the wing, disconnected the line, and blew air in the reverse direction out of the tube using only low air pressure, but nothing happened. We raised the compressed air pressure and tried again while Joann held a towel to the pitot tube to catch any debris. Suddenly, dust and dirt sprayed out of the pitot opening. It took quite a bit of pressure to remove a very unexpected, substantial blockage. My aircraft partner had not put the pitot cover on after his last flight a few days earlier, and I hadn't noticed the cover missing. I never thought much about how important that little cover is, but we are all convinced of its importance and will never miss that seemingly little detail again! I flew again the next day, and the airspeed WAS Alive....and so were we. All good. Thanks for AQP training and thanks for raising awareness...

BURNED-OUT INSTRUCTOR - COLTON MORGAN

CFI for 3 years from CA

I'm currently a second-year First officer and have two tips for instructors from looking back on my instructing days:

1. Remember where you came from, your struggles, strengths, etc.; it's easy to become frustrated which will negatively impact you and your ability to teach. You may feel like a fighter ace in that 172, but you didn't start that way. Be someone students want to emulate when they become instructors and not the lousy instructor everyone's gotten to experience.
2. Enjoy what you're doing now as an instructor, yea some days, bouncing in the pattern, you'll be watching that shiny jet takeoff and think I can't wait for that, and you should! But take it from a guy on the other side; one day, you'll be looking from that shiny jet wishing you could jump to Catalina for a burger and fries in that old 172 down at the flight school.

I was that burned-out CFI and couldn't wait for the next thing. That's an attitude I wished I'd never taken. I wish I'd chased more instructor ratings and had more fun with it. It was a blast at first, but I didn't have perspective. Becoming a pilot already takes a huge commitment, both in time and financially.

Flying with a CFI who's hardly present and not focused on where they are right now is a significant threat to aviation safety and a bigger threat to the student's chances of completing training or being willing to continue on further ratings.

NOTES:

STUDENT SOLO IN IMC - DARREL DILLEY

CFI/CFII/MEI, BGI/IGI/AGI, for 49 years from CO.
Designated Pilot Examiner
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Another CFI told me about a scary situation he experienced with a student pilot. This happened many years ago, in the days before ForeFlight, Flight Aware, GPS, and even cell phones.

The CFI had sent his student pilot on his long cross country from one of the many Los Angeles basin airports.

While the student was gone, an un-forecast June gloom settled in and over the top of the airport. It wasn't IFR, but overcast conditions.

The instructor called the local FSS station, and all he could determine was that the student was en route back. While pacing outside on the ramp and worried about the student, the weather conditions, and the terrain, he heard an airplane overhead. ***Looking up, he saw the student's aircraft descending out of the clouds, entering downwind, and landing safely.***

Not knowing whether to kiss or hit the student, the much-relieved CFI could only do the most critical item of flight training and debrief the student on his aeronautical decision-making process for the flight.

The student explained that his flight planning checkpoint times had been perfect throughout the trip. On the last leg back, he climbed to cross the ridge of hills East of his destination and came across the ridge only to discover he was on top of the clouds. He figured he should be over the airport at his ETA, reduced power, and started an IMC descent through the clouds, breaking out directly over the correct airport.

When asked why, the student explained that he thought he had done everything exactly as the CFI had taught him to navigate, keep accurate flight log sheets, and how to fly by his instruments,

The student got an A for navigation calculations and skills but an F for cloud clearance and FARs knowledge. He did earn the extra credit grade of "L" for Lucky. The lesson is to make sure the students have a clear understanding of more than just flying the airplane. My rule for students is to pass the knowledge exam before starting the solo cross-country stage of training. They are better prepared to fly solo in the real aviation world.

With the different flight tracking apps and ability to text it is much easier to keep an eye on the students. Today, I utilize all available resources.

CFI PROFESSIONALISM - ANONYMOUS

Private Pilot, Commercial Student from FL

I have experienced CFI professionalism slipping at the expense of scheduling too many students daily, to reach the time goal, and without any time between reservations.

I understand how expensive flying is; I've been flying for 22 years as a student and just finished my Commercial only at the rate at which I have spare time and money. I know CFIs are eager to earn as much money and build time as quickly as possible and move on, but it can affect student learning and safety. I am working to become a CFI and I want to help promote a different way.

My recent CFIs for my instrument and commercial have been flaky and poor at communicating and scheduling. They are planning the next lesson to begin at the same time as another is supposed to end. They are trying to make a living and build hours as fast as possible to join the airlines ASAP. Being a career CFI is not what they want to do, but what they "need" to do for now to make a living and progress towards building minimums to apply to the airlines.

As CFIs while instructing, the instruction is essential, and that doesn't just happen in the air. I think CFIs need to plan for at least 30 minutes between client reservations. That allows for the flight to end and the airplane to be chocked and tied down on time, a 10 min. Debrief with the first student, a 10-minute snack/bio break for the CFI, and a 10-minute brief with the next student (at a bare minimum).

Briefing before flying and debriefing post-flight should be the bare minimum; that is where real learning and development occur in conjunction with proper in-flight instruction. CFIs can charge an extra .3 of ground per student (and not be out any money) for the brief/debrief time, and any student pilot worth a lick will understand that that is the best money spent.

Also, CFIs should strive to be professional in responding to calls, voicemails, text messages, and emails appropriately. These subtle changes will make the CFI more effective, and students progress more effectively.

******Editor's note from Gary "GPS" Reeves:***

I agree with the scheduling more time, but promote a more comprehensive lesson. In my opinion every lesson should be at least three hours to include:

1. 1-Hour Ground and Homework Review
2. 30-90 minute simulator or flight lesson
3. 30 minute debrief and plan for next lesson

14 CFI TIPS - GUS PUTSCHE

CFI/CFII/MEI, IGI/AGI Teaching for 43 years from TX

What would I tell a new Flight Instructor?

1. If you don't know the answer to a learner's question, say, "That's a good question. Let's look it up" By doing so, you both learn, and the student doesn't have to listen to someone trying to fumble through an answer.
2. Spend time preparing for the lessons you teach to ensure you are telling the learner the correct information the first time. (Remember the law of primacy in learning...). It is hard to go back and correct wrong information you have given out)
3. Watch for signs of fatigue in your learner as you progress through a lesson. When they get tired, they will not absorb the information you share. Be willing to say, "That's enough for today."
4. Keep a folder on each learner up to date with information on what you have covered or what needs to be covered. Don't be the instructor that says, "What did we work on last time."

5. Be on time for your sessions with a learner; respect their time. Your time is valuable, and so is theirs.
6. Present scenarios in flight that align with the stage of training the learner is progressing through in a manner that develops ADM without making it feel like a trap or trick.
7. Present reasonable distractions, much like a non-pilot passenger would, by asking questions while the learner attempts to aviate, navigate, or communicate.
8. If you are going to simulate an engine failure, make sure you have already picked out one or two options for landing locations in case the simulation turns into a real scenario. Have the learner complete the landing if the landing area is an appropriate airport. I have seen learners get very nervous when they learn the failure will result in actually landing the plane instead of adding power and going around. It adds a degree of realism to say this is not a game.
9. Ensure all the necessary endorsements are correctly done to help yourself, your learner, and the examiner have an easy, stress-free start to any check ride.

10. When you demonstrate a maneuver that doesn't come out as well as you want, analyze it with the learner to point out what you did wrong. Demonstrate the correct way and have the learner tell you what needs to be improved. Then have the learner demonstrate and evaluate their attempt at the maneuver.
11. Reprimand a learner privately, give them kudos in public, and always be respectful.
12. If your learner is just not getting it, you may need to get other instructors to fly with the learner for another opinion and feedback for both you and the learner.
13. When you endorse someone for a check ride, evaluate them as though they would be taking your children flying. Are they ready for the ride?
14. If it is obvious a person cannot safely fly, after exhausting your skillset, recommend another instructor assess the learner. If they progress, they can continue with you or the other instructor. If the issues are more severe or cannot be fixed, you should truthfully advise that person that this may not be their cup of tea.

Paul J. Preidecker, President NAFI

Paul J. Preidecker has been a flight instructor for almost 30 years. He recently retired from Air Wisconsin Airlines, where he held the positions of Chief Flight Instructor and captain. In those roles, he served as an Aircrew Program Designee, Line Check Airman, and was qualified as a simulator and ground school instructor.

Paul has served as a member of an FAA Aviation Rulemaking Committee, was an invited speaker at the NTSB Symposium on Professionalism and moderated the regional airline program at the World Aviation Training Summit for several years. He is a co-host of FAA Safety Briefing Live and

has made several presentations for NAFI MentorLive. In addition to serving on the NAFI Board, Paul is a member of NAFI's Professional Development Committee.

Paul is president of his own company, FlightDeck Insights, where he develops and promotes best practices and SOPs for the general aviation pilot.

NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS
Excellence in Flight Instruction

3 CFI TIPS - PAUL PREDECKER

CFI/CFII/MEI, BGI/IGI/AGI Teaching for 32 years from WI
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1. Our clients commonly become nervous as we introduce and practice new skills in the airplane. It's OK if our clients are anxious. But, if you get worried about how things are going, be prepared to intervene appropriately.
2. When working with someone with more experience than you have, do not make assumptions about skills and abilities. It's far better to assess than assume. And remember, the client came to you for what you have to offer.
3. I've noticed that new instructors tend to talk too much in briefing sessions which can sometimes overwhelm students with information. An instructor doesn't have to convince a client how much they know. What's important is that you know how to calibrate the data flow to the student's ability to absorb and apply relevant information to the student's situation and capability.

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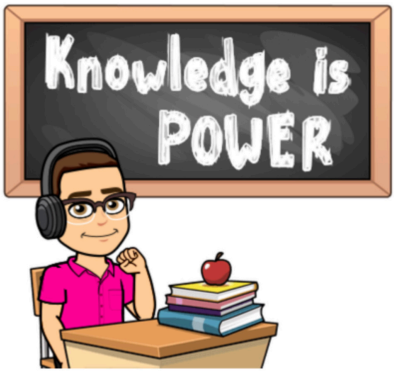

Gary **"GPS"** ***(The Guy in Pink Shirt)*** Reeves
2019 FAA National CFI of the Year
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MOLASSES IN THE COMPASS - ANDREW GODFEY

CFI/CFIII, IGI/AGI, Teaching for 4 years from SC

My client polished up on full-panel instrument skills, including an efficient scan and flying patterns and approaches. When we began flying partial panel, reading and responding correctly to the compass became a challenge. We went through the concept of dip errors in a turn and that the compass stays fixed while the airplane moves around the compass, which always seeks the north direction. We talked conceptually about a turn to the left will always reduce the heading (for example, turning left from a heading of 120 will change the heading to 110 to 100, etc.), and turning to the right will increase the heading. When turning from a heading north of the East-West line, the compass turns in the opposite direction. When turning from a heading south of the East-West line, the compass will jump ahead of the actual heading.

The "aha moment" came when the client exclaimed in exasperation, "Basically, the compass is always lying to me in a turn... the degree just depends on how far away from the E-W line I am heading. The compass initially lies in the turn, but I don't really care about the initial heading.

I care about when I should roll out. If I am on the northern side of E-W, I need to roll out before I see the final heading. If I am on the southern side, I need to roll out after I see the final heading." We had multiple ways to think about dip errors. The undershoot / overshoot (UNOS) acronym didn't connect.

I shared how I think of the fluid in the compass as molasses instead of a "whiskey compass" where on a northern heading, the molasses is thick, and the compass lags behind. The molasses is like warm syrup on a southern heading and leads the heading.

Another exercise is to turn a Styrofoam cup upside down on a pencil and mark the compass headings on the cup's rim (N, W, E, S, etc). Then sit in a swivel chair and watch how the compass moves. All of these are different ways to advance from Rote to Understanding to Application to Correlation, but the client had to work through them and discover his own way for the concept to stick and become a new behavior.

Start from simple to complex. Go through and understand the deceptive nature of the compass on the ground. Fly in a simulator next if available. Move from full-panel to partial-panel in steps by covering just the DG first. Then, cover the Attitude Indicator last. Turn from an East-West heading next and rollout on a East-West heading. Finally, turn to and from a North-South heading as the final step.

NEWTON'S LAWS - STEPHEN DONNDELINGER

AGI for 1 year from IN
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I think many of the tried and true principles of airplane flying can be better understood and reasoned with a solid understanding of Newton's laws. There is this belief in aviation that to understand aerodynamics properly; you need some advanced degree in math, science, or engineering. Short of that, the student pilot strives only to learn enough aerodynamics to pass the written test. Some people have a fear of math or science. Flight instructors and ground instructors need to become well-versed with Newton's laws and aerodynamic principles and help students overcome the notion that you cannot understand aerodynamics without a math degree.

Essential points I hammer home with students. Newton's first law = no change in motion due to the absence of a NET force. A common misconception is that constant motion results from lack of any force, but one of the first things we learn as aviators is that straight and level flight results from 4 BALANCED forces. The airplane has various forces constantly acting on it (even sitting motionless on the ground).

Still, when those forces are equal in magnitude and opposed in direction, the result is a constant motion situation. We like to talk about the opposing forces, but it is probably more important to help students conceptualize LINKED forces. Helping them grasp the inextricable link between thrust and lift (due to the mechanics of how wings create lift) versus the relationship between drag and gravity (more of the former equals more of the latter) is crucial. If students correctly understood the interaction between these forces, the concept of "pitch for airspeed, power for altitude" would feel natural and logical. It would not seem counterintuitive at all.

Newton's second law = if an object (or airplane) changes its speed or direction, it is being acted on by an unbalanced force. Here is hammering home the idea that acceleration is any change in speed OR direction due to the presence of a net force. This is critical to helping students understand how and why accelerated stalls can occur at any attitude or airspeed.

Newton's third law already gets a lot of attention as one of the two principal explanations for how a wing flies, but I think it could still be pointed out how it affects all aspects of an airplane's operation. Properly speaking, airplanes gain thrust from the reaction force of the propeller pushing air backward. Yawing left results from a reaction force due to the rudder deflecting air to the left, thus pushing the tail to the right.

Induced drag is a reaction force caused by air trying to balance the pressure differential created by an airfoil at high angles of attack, and thus why its effect decreases as speed increases, the angle of attack lessens, and parasitic drag becomes the dominant, opposing force to thrust.

NOTES:

What about your stories and tips?

Don't keep the best stuff to yourself! Send in one of your short stories or tips and we will add it online and in the next edition. Contributing authors receive credit(looks great on LinkedIn or resumes) and you can promote your website or services if you want.

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3 PHASES OF LANDING - ANONYMOUS

CFI/CFII/MEI, AGI for 30 years from FL

Every landing has three phases; the level-out (flair), the touchdown, and the rollout. Each stage requires a shift in where the pilot is looking. During the approach, the pilot looks at an aim point on the runway. As the pilot begins phase one, the vision should shift down the runway to arrest the sink rate.

Then, in phase two, the pilot should focus on about 25 yards to judge the height above the ground better. As the nose rises, let your eyes slide off the corner of the panel. Try to get the plane's tires about 6 inches off the ground; don't let the tire touch the runway. Doing this will result in a beautiful full-stall landing and the beginning of phase three, the rollout. Keep holding your nose up. It will come down on its own. Eyes once again down the runway and steer with your feet until slow enough to turn off the runway.

While on the ramp, I will have the student sit in the cockpit with the seat adjusted. (Cessnas only). They pace off about 25 yards and show them "the spot" where they should look for the touchdown phase. Then while they are looking at the spot,

I will raise the nose by lowering the tail to the approximate touchdown attitude so they have a good visual clue as to what to expect to see in phase two.

Still, the way I teach it. A conventional gear aircraft (taildragger) is already in the touchdown attitude. (No need to lower the tail). Still, showing where to look makes a huge difference. Call it out verbally at the onset of each phase by simply saying, shift your vision.

Explain that if they level out too high and completely stop the descent, they are looking too far away down the runway. If they abruptly pull back on the elevators, they are very likely looking to close.

NOTES:

MAKE SOME INSTRUMENT COVERS - ZOAN HARCIERODE

CFI/CFII/MEI, IGI/AGI for 33 yrs from CO

After having an actual attitude gyro slowly fail in IMC, I decided to make instrument covers that look like the instrument in its failed condition--instead of just covering up the instrument to simulate it failing.

It is easy to clip or screenshot pictures from the Instrument Flying Handbook and Instrument Procedures Handbook, arrange them in a word document, and print them in color onto card stock or thicker paper. Cut out the picture of the failed instrument, and if it needs help staying in place, use a small piece of blue painter's tape to secure it over the instrument you want to "fail."

Besides training the proper alternate scan and revisionary procedures, I expect the pilot to supply their own alternate cover(s) to place over my simulated failed instrument.

For screen failures, I use black chalkboard tape & only peel back a small portion of the backing to stick on the bezel--no adhesive on the screen. I've also printed a large red "X" for simulated failures.

On the day of my actual attitude gyro failure, I had been flying daily as a high-volume flight instructor and preparing for my ATP checkride. I tried to right the failed gyro three times by rolling the plane, even though I had identified the failure. Finally, I told the pilot in the right seat, "Get me something to cover up that instrument before I run us into a mountain."

Making instrument covers that look like the instruments are in a failed state is a great way to train like you will fly, so your learners will fly like you've trained! Today with the likes of the Garmin GI 275, G5, and similar displays it can be a bit more challenging to come up with simulated magnetometer and AHRS mis-alignments and failure - but they happen. I find the simulator to be the best at training failures for electronic flight displays.

Even so the certification test for an Instrument rating, require magnetic compass turns and times turns to magnetic headings, so having a realistic way to block out heading and attitude references during training is necessary.

WARN STUDENTS ABOUT PLATEAUS - MIKE JESCH

CFI/CFII/MEI BGI/IGI/AGI for 40 yrs from CA

Be honest and upfront about learning plateaux. As I started as an instrument student, I told him there would come a time after we had introduced all the material, but before he was ready for the check ride when he would feel for a while that he would never get it. This is normal. This is normal. You'll know it when you get there. Sure enough, about two months before his check ride, we'd do a couple of lessons where things weren't clicking, and I could sense his frustration levels peaking. I explained that; remember when I told you we would get to a plateau? Well, here we are. Instead of a lesson, we did a fun flight with no learning objective, no pressure, no view-limiting device, just an ordinary flight from A to B for a glass of lemonade.

Just watch the parts of the system function. It was a great palate cleanser, and our next flight was in actual IMC, with an RNAV approach to 400′ ceilings, and he nailed it.

He got out of the clouds just before DA and Presto! There was the runway, and I looked over and saw his ear-to-ear grin, and his sense of accomplishment was palpable.

He went on to nail his check ride about two weeks later. It helps to prep them for these plateau events so that they know they're normal. They happen in most forms of primary training, but especially on the instrument rating.

NOTES:

Short Instructor Pro-Tips

Demonstrate actual IMC - Anonymous Studying to be a future instructor from TX

I was a trainee. As a Private Pilot, the best thing that happened to me was my initial real IFR experience. CFII and I took off from a towered field into 1500AGL ceilings. Upon entering the clouds, it was very bumpy, and I attempted to follow ATC vectoring instructions. I looked up and got disoriented, but CFII was there to help me recover.

You can read about it all you want, but you only know what it means once you experience it. I recommend that all CFIs file IFR and fly so their students can experience the perils of VMC into IMC during Private Pilot training.

******Editor's note from Gary "GPS" Reeves:***

This is one of my favorite tips in the entire book. For many pilots their first actual IMC happens when they are alone with no real experience.

Stay focused - Gary Reynolds
CFII for 37 years from CO
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I was giving a lesson in a PA28-180 at the end of a long day. We had just refueled the airplane, and before engine startup, the student asked me, “Is this on the right tank.” Or at least I thought that was what he said. Without thinking or looking, I said yes; we had just fueled up, and it didn’t matter what tank we were on. In reality, what he said was, “Is this right?” ***The fuel selector was not on either tank but in between right and left.***

I didn’t notice because I was not entirely focused on our flight or listening as I should have been. As we took off, the engine started to sputter and lose power. Fortunately, we had enough power to turn around and land back at the airport. The lesson here - No matter how tired you are, be focused and pay attention to your student; sometimes, they may know what they are asking.

Don't be a jerk - Anonymous
Studying to be a future instructor from MT

The instructor and owner of a prominent flight training operation in FL stood in for my regular instructor. I was a rusty pilot, flying my own C-172M. I was on a very stable VFR approach to land, and because I was landing a few feet too long for this instructor, he abruptly reached over, grabbed my hand on the throttle, and yanked it back to idle. I was about 10 feet off the ground, and we slammed into the runway. My nose gear immediately started shimmying. I was furious about this.

My airplane had just gone through a $10K annual, and this guy almost made us crash! Once the aircraft was tied down, I could not bring myself to confront this jerk since I was outraged. Later, I mentioned this to the other owner and told him I would not let that guy near my airplane. This jerk of an instructor was also very well-heeled, a Gold Seal instructor, instructor of the year, and all that. I honestly don't know how. The guy came across to me as cocky, bitchy, and a know it all.

VFR doesn’t mean safe - Don
Private pilot from FL

I learned to fly at a flight school in Michigan---during the winter, of course! Early in my training, my instructor took me up for a lesson on a terrible day. The ceiling was around 2500′ overcast, visibility was not more than 5 miles, and it had snowed recently. But she said we′d be OK since we had VFR conditions. We flew about 15 miles from the airport, and she said, *"Well, this isn't much fun; let's go home."*

I knew the airport′s direction but could not begin to see it. We got within 5 miles of the airport, and I still couldn′t see it. We got within a mile, and the only way I could tell we were just about there was the landmark water tower near the airport.

I′d have been in serious trouble if I′d been alone. She said, *"I just wanted you to appreciate what 5 miles visibility means. It means you can see almost nothing. Remember that!"* I still remember that lesson some 25 years later.

Show them the lights - Anonymous Studying to be a CFI in MN

I had promised myself as a gift for me turning 50; I would take a flight lesson. Sure enough, I was hooked. My only original intention was to get my certificate to fly around and have fun.

Fast forward nine years and 500 hours. I now have my Instrument and Commercial and am working on my CFI to transition from my current employment. To this day, I have not done the light gun signals.

In all of my trips to the Class D airport 5 miles from my home field, I have yet to see them. While we are making our trips to the Class D for training, ask the tower to demonstrate the student the light gun. Both at night AND during the day.

Another request for lights from a private pilot in CA

When training a PPL student and doing pattern work at a towered airport, ask the tower to demonstrate light gun signals. I didn't see them until after I got my PPL. I had stopped in for a couple of laps at a local Class D. I had never been shown light gun signals by my flight instructor. They were only covered in the books and on the written test.

It was quiet, so as I taxied back, I asked the tower if they would demonstrate the light guns. They were happy to do so.

Set personal minimums - Sho Akiyama

Teaching for 1 years from CA
CFI/CFII - Airplane, AGI
1968piperarrow@gmail.com

Personal minimums. Most pilots understand it is not intelligent to do "zero-zero" take-off. I teach my IFR students that my personal minimum is the ceiling and visibility that will allow a safe return to the departure airport (or a nearby departure alternative). When the student was a low-time IFR pilot, I advised her to raise the minimum to either a non-precision level or a circling minimum level to depart that airport.

Trim away the pressure - Gary Palmer CFI, IGI/AGI, Teaching for 2 yrs from CA

www.timetoflyplanes.com

My student had just completed her private pilot in another country and has about 75 hours. It was her first time flying with me and she was having trouble adjusting the trim.

She kept getting close and then over or undershooting on it. I explained that our sensitivity to very light pressures diminishes when we hold control pressure for a long time. So I had her hold the plane steady and spin the nose down trim to force her to apply a lot of back pressure to remain level.

After holding that heavy back pressure for a couple of seconds, I had her trim out the pressure. A few spins, and she could feel the pressure diminish and recognized when it was gone. She removed her hand, and the plane remained level.

She nailed it. Students can do this with nose-up trim too!

Who has the controls? - CFI/CFII/MEI for 36 yrs from CA

During student-pilot training for slow-flight, stalls and, incipient spin training in a C152 the student allowed a left-wing drop. Early training in a good positive exchange of controls led to the student handing over the controls to me quickly. I demonstrated how to make a safe recovery from an early spin. It's crucial to teach and practice control exchange from the very first flight lesson.

All sides are protected - Victor Delgado CFI/CFII/MEI, IGI,AGI for 25 yrs from OH

vdelg68@gmail.com

Please ensure that students (or instructors if you overhear them!) do NOT refer to the non-holding side of a hold as the "non-protected" side. It is a misnomer to characterize any part of a hold that way, as ATC must protect all lateral parts of the hold to a certain distance. The protected area depends on the hold size as listed in the TERPS criteria.
The FAA refers to a hold's "holding side" or "non-holding" side.
Get more instrument experience in actual IMC on an IFR flight plan with a CFII if you are a newer instructor.

Talk to yourself - Stephen Donndelinger
AGI for 1 yr from IN

aerolucent@gmail.com

In my private pilot training, I adopted a "think-aloud" mindset borrowed from my educator background. I tried to vocalize my thought process during the flight, from pre-flight through shut-down. Talking to myself during checklists, maneuvers, and pattern procedures helped me reinforce the conscious and unconscious habits I was acquiring. More importantly, perhaps, it helped my instructor better understand what I was about to do or why I did what I just did. I did not do this perfectly or constantly, but I think it helped me be more disciplined and intentional about my training in the long run.

As an instructor, I would model this "think aloud" strategy with checklists while demonstrating any new skills to the student. I would also insist that the student pilot vocalize all checklists, lesson maneuvers, and operational decisions in the traffic pattern or terminal area.

Three flying rules for new pilots - Anonymous

Please share with your students three rules for when they fly after completing their certificates.

1. When flying with passengers, never let them add any external pressure, including feeling obliged to share what's happening until you get 100% ahead of the plane. These could result in you missing a critical step.
2. Only enter the plane after knowing precisely what you plan to do/where you plan to go. Have a plan in advance and rehearse it step by step. Don't change unless you have an emergency.
3. The building of rust after not flying for more than three weeks is real. Make it a rule to invite CFI for a few rounds around the airport. It makes a huge difference.

Two quick tips - Gary Reynolds CFII for 37 yrs from CO

glrcolo@gmail.com

Two quick tips for new instructors:

1. If you're not doing something, you are getting behind!
2. If you do something and something bad happens - undo it no matter how unrelated your action seems to be to the problem.

Tailwind on base - Will Hubin CFI/CFII for 50 yrs from OH whubin@kent.edu

The importance of a tailwind on the base leg is often not adequately taught. For one thing, it can be much stronger in the pattern than on the ground, especially at night, and it can make it very likely the pilot will overshoot the final approach heading (especially with the extra turn to compensate for the crosswind) and be tempted to over bank and or skid the turn. And note that the view from the cockpit is very different from that up much higher where we practice it.

Talk less when teaching - Anonymous Private pilot from WI

As a student, I loved all my instructors, but non-stop talking was very distracting. The need to communicate is there, but use less words and stop to let the student focus and absorb more often.

Don’t scare your students - Anonymous Private pilot from CA

Please, instructors, do not take your student out for stalls and spins on their second-ever flight in a small aircraft. The instructor did not explain what would happen, prepare the student for +g or -g sensations, or explain the aircraft's capabilities to withstand such maneuvers.

The net result was that the student pilot almost quit instruction after the second training day. Some students are not impressed by "hot-shot" instructors and those instructors can do more damage than good.

******Editor’s note from Gary “GPS” Reeves:***

This same thing happened to me on my first demo flight. The instructor though it was funny to stall the plane. I was so scared that I quit and almost never went back. Luckily, my love of airplanes brought me back two years later! It's never funny to scare a student.

Flow checks - Anonymous
ATP, CFI/CFII/MEI, retired airline pilot
40 yrs from FL

When teaching in GA aircraft, show how to do a "flow check,".ie, check all switch positions and static instrument indications for proper readings, markings, etc, before the engine start. Also, before starting the engine, with no headset on, run a flight control check to listen to any unusual sounds and visual of correct movements. This can be repeated during the pre-takeoff checklist later if necessary. Before takeoff, brief normal as well as emergency procedures required on takeoff. I.e., wind/ weather rejected takeoff procedure, etc. This will ensure a low loss of reaction time should an "oh crap" scenario develop.

The most important survival gear - Daryl Swenson
CFI/CFII for 50 yrs from OH
www.darrylswenson.com

What is the most important survival gear to take with you on any flight? A VISA card! It pays for a hotel and/or a rental car. Remember, you never have to fly home today, your family just wants you to get home safely.

Do more short/soft landings - Charles Hinchey
Private pilot from MS
cnhinch@gmail.com

When I was a student, we did only three short and soft field landings midway through my training. I missed my soft field landing on my check ride and had to repeat. If we had made this a regular part of my 160ish landings, it would have been a piece of cake.

After a student lands consistently without CFI intervention, make ALL take-offs and landings either short field or soft field (with exceptions for learning x-wind). These are critical for the check-ride, and there is no downside.

Don't depend on GPS - Braydon Morrow
CFI for 1 yr from TX
Braydonmorrow93@gmail.com

As a new instructor, I learned to make my students comfortable with ZERO help from geo-reference on ForeFlight, and GPS. They should get comfortable navigating without help from a technological aid for when things go wrong: ex-, check-ride equipment failure, ACTUAL failure due to location/GPS service outage/ iPad&iPhone crash.

Flying around hot air balloons - Alexander Isayev CFI/CFII, BGI/IGI/AGI for 2 yrs from WA Facebook.com/flighttrainingandmore

Multiple hot air balloons often launch in the morning, various altitudes, various distances, swarming the airport we flight train at. We have no idea what their intentions are and had no way of finding out. I'd like to recommend balloon pilots carry a handheld radio, an EFB with portable ADS-B in, and a flashing light you could attach to the bottom of the canopy. By communicating, knowing where some of the airplanes are and, being more visible everyone will be safer.

Let go of your ego - Greg Bertelli CFI for 1 yr from MO gbert0@yahoo.com

Let go of any ego you may have and be humble. This allows you to see things with a fresh set of eyes. It also helps you to be open to changing PAVE conditions.

Acronym confusion - Jasper Bolton CFI/CFII/MEI for 2 yrs from CO

Explain acronyms and define vocabulary before using them. Especially if you have learners from other industries that are acronym-heavy, it's easy to confuse them when we use the same acronym to mean different things. e.g., Top of Climb vs. Theory of Constraints (TOC). Compile vocabulary required for each lesson so we can introduce it ahead of time.

Go to WINGS seminars - Randy Voorhies CFI, AGI for 18 yrs from FL

rvoorhies@msn.com

Attend your local wing's seminars! I cannot tell you how many things I've learned while earning Wings credit. Helicopter wake turbulence, aircraft maintenance logs, and spins versus steep spirals are just a few topics you can learn in-depth that are not covered thoroughly in training.

Want to get better at explaining complex topics? Go to Wings! Become a better CFI by copying a better CFI. I would have realized more quickly, FAA minimums are just that, the bare minimum. The real exams come with every flight, be prepared, keep learning. Wings seminar instructors are some of the best in the industry. Learn more at

www.FAASafety.gov

Paws off buddy - William Dubois
Master Instructor for 40 yrs from NM
Author for Air Safety Institute & General Aviation News
Taught 900 flight instructor candidates

Don't "guard" the yoke when flying with a student after day one. Even if you are barely touching the yoke – or not even touching it – all your student can see from their peripheral vision is that you are still in command. This causes two problems.

First, it sends the message that you don't trust the student. And secondly, and more critically, it leaves the student unsure when they are flying. Perhaps your student does an AWESOME job landing, and you provide the appropriate positive verbal feedback. But with your hand on the yoke, even ever so lightly, you are sending the opposite message. So no "shadowing," it casts the wrong kind of shade!

Are you worried about safety? I promise if your student puts the airplane in danger, the adrenaline rush will turbocharge your Ninja CFI quick grab moves. Plus, as a benefit, your arm won't be so tired at day's end!

Don’t explain while flying - Brad Mandery
Future instructor from SD

Try not to teach something you have not explained while flying, or if the student is not 100% clear on. Take the controls while you describe, so their brain can digest and interpret what you are saying. If you don't explain first, you will often get an "Ok, got it" or a "Yep" without knowing if they genuinely understand.

Heading bug to the wind - George Smith
CFI, BGI/IGI/AGI for 37 yrs from IL
Neoflites.com

As a student, I remember being completely lost on the ground when trying to remember which way the wind was coming from so I could position the controls correctly, and it got worse with each turn I made.

It wasn’t until I was working on my commercial that the instructor told me to set the heading bug on the DG for the wind direction. That way, every time you turn, you can look at the picture of where the wind is in relation to the aircraft.

Teaching the 180º power-off landing - Aaron Doty CFI/CFII/MEI for 5 yrs from CA

Many students and some experienced pilots struggle with the 180 power-off approach. They either land short by trying to maintain a normal pattern or way overshoot the runway by turning too early or nose-diving to the touchdown point. Pilots will do this no matter what the wind conditions are, thus resulting in inconsistent performance.

Pro Tips for teaching the 180 Power-Off Approach:

1. Turn Immediately 45 degrees toward the runway (touchdown point).
2. Then you can see how the wind is affecting your drift to your landing spot. I.E., light or strong headwind/tailwind.
3. Then adjust whether you need to head directly to the touchdown point or keep heading out as required on your new heading(s) before heading back towards the touchdown point.

Physio-minimums - Chris Schlanger CFI/CFII/MEI, IGI/AGI for 2 yrs from MO

Set concrete physio-minimums for yourself and share them with your students. What's the minimum sleep you need? What's the latest/longest you'll go since you last slept? What's the longest you can go without eating?

Should you set a maximum work duration that gives you enough energy to fly? We spend almost all our time on weather minima, yet we often blow through IMSAFE with little more than "I'm good." That's ridiculous.

Fatigue is our most significant risk and, by definition, a blind spot. Approach it with as much rigor as you would any other risk. In PAVE, Pilot comes first.

Cover the instruments - Christopher Rothermel New CFI, AGI from PA

Take away instruments from the student. With certain maneuvers (steep turns, chandelles, lazy eights, stalls), students perform better when they use their senses rather than their instruments. This worked on me as a student, and I found in my teaching experience to help my students as well.

Stay humble. While CFIs generally know more than their students, don't assume so. You're always learning.

Let them teach you - John Allen CFI/CFII/MEI, BGI/IGI/AGI for 33 yrs from IN

Sometimes when a student struggles to master a maneuver, a role reversal can be helpful. Have the student try teaching the maneuver to the CFI, and it will quickly become apparent if the student fully understands the concept of the task.

Always remain vigilant and skeptical. There are threats to every flight that you are unaware of or have not discovered yet, which could lead to undesirable outcomes.

VOR radials are two not to- Norton Barros Future CFI from TX

When learning how VOR flags work, it's typical initially to have difficulty differentiating what information the "from" and "to" indications give you. Suppose instead of lengthy explanations on OBS setting versus aircraft position relative to the station, you tell the student to think that on the instrument is written "to" because of a grammar error, and it should be "TWO" instead because with that flag you have two radials going on. In that case, you can almost immediately see the light bulb in their heads.

Let them make mistakes - Bob Breidenthal
Future CFI from from WA

A young instructor was so quick to fix student mistakes that the student had trouble learning to recognize the error and how to correct it. Sometimes it is better if the instructor sits on his hands up unless he needs to intercede for safety purposes. Explains the signs of what went wrong and how to correct it.

Be vigilant and ready to recognize and react if it will become unsafe.

It's an open book test - Mike Jesch CFI/CFII/MEI BGI/IGI/AGI for 40 yrs from CA

Introduce the ACS right from the start. The practical exam is an open-book test, and the ACS is the book!

****Editor's note from Gary "GPS" Reeves:***

Mike is giving you some of the best advice in the book. Examiners will tell you how often students fail their check ride because they have never seen the ACS and don't know what they are tested on!

Helping learners with English - Sho Akiyama
CFI/CFII, AGI for 1 yr from CA
1968piperarrow@gmail.com

Instead of concentrating on listening all the time, I found, for some students, two tips worked.

1. Focus on the first word of ATC. This can help a student focus on the initial sound coming from the headset. Particularly when the student is still not familiar with ATC, just focus on if your aircraft ID is called or not will help the student gets used to the ATC. Live ATC helps to some extent, but some students get confused and tired because (a) they cannot focus on every unfamiliar aircraft ID and (b) they cannot understand quickly enough because the student doesn't know where every aircraft is.
2. Type up typical ATC phrases by each typical flight phase and ask students to memorize them and/or chair fly with them. Students will learn what kind of ATC communication comes with general locations/situations. If students understand, memorize and expect the typical ATC phrases/statements in everyday flight situations, they become more confident. This may not work for every student, but I found it helpful for most.

Help them see the landing - David Wells CFI, IGI/AGI for <1 yr from CA

1. I place blue tape on the cowling when I teach people to land the first time. The blue tape is to help the students align the aircraft to the runway.
2. Have the student sit in the airplane, and manually lower the tail to (almost) the ground (I am standing outside the parked plane at the empennage) so that they can see what sight picture would potentially cause a tail strike. Students then know how to recognize and avoid over-pitching the aircraft on landing.

Tell us who's flying - Tony Hernandez Student pilot from TX

CFI should say if they are on the controls or not. If I did the maneuver correctly and I know you're not on the controls, my confidence goes through the roof.

Use a syllabus - Joseph Schmalz CFI/CFII/MEI for 25 yrs from FL skwy99@gmail.com

Always use a syllabus. The student needs to have a copy of it and understand it. It keeps everything and everyone on the same page. Before each flight, review the assignment; brief today's flight and scenario; make notes during the flight for debriefing; do logbook entries with more detail showing exactly what was done, not just a generic PPM. Ask the student to rate their performance in all areas of today's flight. Then, give your assessment. Assign homework.

Do what I mean, not what you hear - Mike Marquette CFI/CFII for 14 yrs from ID mm9132j@aol.com

Working with a student on pre-solo landings, I would say level out now upon reaching ground effect, meaning bring up the nose of the aircraft to a level attitude. After several unsatisfactory attempts, I asked him what he was doing. He said "*I am trying to level the wings,(left/right roll) when you said. No, not that level*," I said.

We both laughed, and his landings instantly became much better. I learned that what you say may be different from what the student hears. Always clarify by asking questions.

Let them decide - Anonymous CFI/CFII for 2.5 yrs from AZ

Avoid making all of the no-go decisions for the students. Let them get there on their own and guide them if they need it.

Be Specific - Hannah Neill CFI/CFII for 3 yrs from OR

Instead of just saying "reduce power" or "increase power," use specific numbers like "1500 RPM". Students must learn how much or how little to adjust the throttle when learning. Also, speak clearly because "full power" can sound like "pull power" and vice versa.

Be a safety net - Robert Jankowski CFI/CFII/MEI IGI/AGI for 4 yrs from FL

You HAVE to let the student make mistakes in the airplane. You're there to be their safety net. They'll never learn anything if you fix a problem they haven't noticed yet. Just maintain your personal minimums and let them learn.

****Editor's note from Gary "GPS" Reeves:***

Sometimes, they may need a leading question to notice the mistake. Try questions like, "What heading were you assigned, or what is your airspeed?"

Not so many - Scott Beadle CFI/CFII/MEI IGI/AGI for 20 yrs from TX

When being trained to teach in tailwheel airplanes, my instructor had me do up to 14 trips around the pattern in a row without a break. After six or so, they all started to blur together, and I wasn't learning anything.

Because of this, I now have a policy to keep a student from doing more than 4 in a row. After four touch and goes, I take over and let the student take a quick breather while I attempt not to embarrass myself with my bad landing. This breaks up the lesson and gives the student a chance to mentally rest for a minute before resuming their attempts.

I also stop after 10-12 student landings, usually ten if it's just going to be a pattern flight.

Show them the breaks - Ed Wischmeyer CFI/CFII/MEI, IGI/AGI for 40 yrs from GA

For teaching power on stalls: On the first one, I had the student hold too much right rudder, one ball width and told them the plane would break to the right. On the next one, with no rudder, we observed the ball out to the left, and the stall broke left. Finally, I told the student to stall with the ball centered, and the stall broke straight ahead. So now the student knew how to make the stall break right, left, or straight, and there was none of this ambiguity of, "Well, you didn't quite have the ball centered."

Email: e3@greatusermanuals.com for information on the “Expanded Envelope Exercises®

Flying is supposed to be fun - James Snyder
CFI/CFII/MEI, AGI for 22 yrs from NJ

Flying is supposed to be fun. Sometimes students get into a rut whether they're new to aviation, haven't been in training in a while, or maybe out of the airplane for an extended time. Don't be afraid to call "knock it off" when focusing on training and do something fun.

Take them on a sightseeing flight. Go out and have a good time to show/remind them why they got into it in the first place. It's easy to get frustrated with training when it gets hard. I've seen a student fail a PPL check ride and want to quit after all that work.

A little "joy ride" helps to re-cage their mind and remember why they started this journey. Recognize that students can learn just as much by watching as performing. Sloppy pattern? Fly one as you explain it so they can watch and absorb the information. It's amazing how effective that can be when they hit a training wall.

Use saturation and emergencies - Anonymous
CFI/CFII IGI/AGI for 3 yrs from TX

Throw in a simulated emergency when they are least expecting it. I usually brief them that we "won't be doing emergency procedures" and then do them anyway.

With overconfident students, I take them into busy airspace with lots of radio work and task saturate them. It usually humbles them a bit. Task saturation can also work sometimes with insecure students.

Remember, if you've taught something in 17 different ways, and the students still do not get it...9 out of 10 times, the problem is the instructor, not the student. Have them fly with another instructor once or twice to resolve the issue.

File to a feeder fix - Luke Closson
CFI/CFII/MEI, IGI/AGI for 55 yrs from GA
lclosson@cbt-law.com

One thing that the applicant will face during his practical flight test for the instrument rating is the Lost Comm procedure. If the applicant plans the flight, including a feeder fix, for an anticipated approach the decision on when to begin a descent and what route to fly is easier than if he simply plans direct to the destination airport.

Brief, debrief and, journal - Damon Overboe
Future instructor from MO
https://www.linkedin.com/in/damonoverboe/

1. Pre-brief the mission and objectives with the student. Please keep it simple yet also measurable.
2. ALWAYS debrief afterward. Ideally, point out at least one thing that went right, one that has room for improvement, and one thing to do next time (maybe different, maybe keep doing).
3. Highly encourage the student to go home and journal that evening or the next day. They will likely continue to learn from the session if they force themselves to write a short story about it.

Anchoring this behavior early on in a student will serve them and potentially their students, if they teach, in the future.

An early private pilot student has many things they must learn all at once. But when you turn them loose to solo, consider giving them 1-2 maneuvers to work on at a time. Have them master those to the ACS standards before assigning the next. This may help them become proficient in that maneuver in less time, plus it will help them learn and understand the objectives and ACS requirements, removing some mystery and guesswork.

Use a syllabus for a better passing rate - Eugene Fodor CFI/CFII/MEI, BGI/IGI/AGI previous DPE for 10 yrs from FL

Every Instructor should use a syllabus, whether you are teaching 141 or 91. The syllabus should have specific achievements spelled out at given times. I am using the "average student" as the guideline. Most students are very nervous. In my teaching experience, with 5,000hrs dual given and 150 check ride endorsements, all but one passed the first time. The more anxious, the more time it will take to prepare the student.

The FAA probably still publishes syllabus samples, and many companies sure do. Back in my day, the average time for solo was 8 hours, but I never used it as a firm number. The achievement leading up to the solo was more critical, such as simply making a coordinated turn, flying straight and level, climbs, and decent, slow flight and stalls, the basic of airmanship.

Shouting never works. As an Examiner, I went by the Flight Test Guide.

Who landed the plane? - Mike O'Reirdan Former UK Instructor with 1500 hours

In the UK, flying instructors are trained; students and instructors must know AT ALL TIMES who is flying the plane. Handover of control is effected by the handling pilot saying "You have control" to the non-handling pilot and the new handling pilot saying "I have control." Essential for safety.

I used to be a flying instructor in the UK with 1500 hours, thought about getting back into flying here in the USA, and this did not occur. The day I decided to stop flying, I had no idea who made the landing.

I wish I had been far more forceful with the instructor, who was good, but not as good as they believed.

Don’t fight the trim - Ivan Ulrich CFI/CFII/MEI BGI/IGI/AGI for 2 yrs from TX

I teach students not to fight trim when approaching to land by trimming the airplane for the final approach speed on the downwind leg. We do this by experimenting to see how much each notch of flaps slows us down.

If the first notch slows us by ten knots, the second notch ten knots, and the third notch five knots, we will add twenty-five knots to our target final approach speed and trim for that speed on the downwind leg.

Adding the flaps throughout the approach requires no additional trimming, and the airplane slows to the final approach speed with minimal effort.

A 10-year old tried to kill me - Mike Windom CFI/CFII/MEI, AGI teaching for 54 yrs from FL

Back in the 70's, I had a 10 year old boy who had "played" with Microsoft Flight Simulator. For his Birthday his mother bought him a ride in a Cessna 150. Walking from the FBO to the airplane, he and I talked about airplanes, and I told him that flying a computer was very different than flying an airplane. We did the preflight, me telling him what was going on.

He got in the left seat, and me in the right seat, still talking about our flight. I briefed him on the takeoff, what we would do, and what he could expect, and applied full power.

As we started down the runway and reached takeoff speed, he immediately pulled the yoke fully back into his chest and held it there. I told him to let go, but he did not, so I pushed as he pulled on the yoke. We did get airborne briefly before I pulled the power to idle. I taxied to the ramp, got out, and told his mother there was no charge for her son's ride.

I tell all aspiring CFIs to remember one important thing - *"That Person Next to Can Kill You if You Let Them. So, Never Let Your Guard Down"*. Brief new students on what to expect, not to touch the controls until you say so, and when to let go..

Don’t assume experience=prepared - Anonymous
CFI/CFII, IGI/AGI

My first student was a private pilot, instrument rates with several hundred hours of experience and a committed Civil Air Patrol volunteer going to a commercial check ride. He got a mid-80s score on FAA written. Commercial maneuvers were pretty good. Even with all his review for the written test, he had not studied effectively for the oral part of his check ride.

I assumed he would not be tested for certain things based on the type of airplane he brought to practical. No constant speed prop, so fuzzy on its operation, etc., turned out to be a flawed assumption. I should have spent much more time testing him on the things he got wrong on the written. Would not have taken his word for how well he had reviewed.

My fault. Great learning experience for both of us

Resources and Links

Autopilot Free Video Training	https://pilotsafety.tv/autopilot
Avemco Insurance	www.Avemco.com
Avidyne Mastery Training Videos	https://pilotsafety.tv/videos
Decision Fatigue	https://pilotsafety.tv/Accidents
Expanded Envelope Exercises	E3@greatusermanuals.com
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FAA Safety Team - Join Us	https://pilotsafety.tv/JoinFAAST
FAA Wing Program Info	https://pilotsafety.tv/WingsInfo
Feedback Form	https://pilotsafety.tv/ProFeedback
Garmin Mastery Training Vidoes	https://pilotsafety.tv/videos

MON System	https://pilotsafety.tv/MON
NATCA Guide to VFR FF	https://pilotsafety.tv/FlightFollowing
National Association of Flight Instructors	www.nafinet.org/
PilotSafety.org	www.PilotSafety.org
Share this book/ program with others	https://pilotsafety.tv/ProShare
Share your tips & Stories	https://pilotsafety.tv/ShareYourProTip
IFR Real World Pro-Tips Book	https://pilotsafety.tv/IFRBook
Single-Pilot IFR Mastery Videos	https://pilotsafety.tv/videos
Soaring Society of Boulder	https://pilotsafety.tv/soaring
Society of Aviation Flight Educators	www.safepilots.org
Teaching GPS Instructor Course	https://pilotsafety.tv/InstructorVideos
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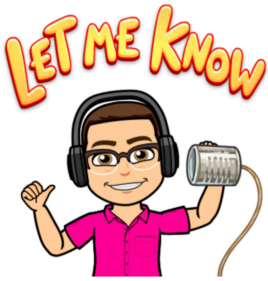

Gary **"GPS"** ***(The Guy in Pink Shirt)*** Reeves
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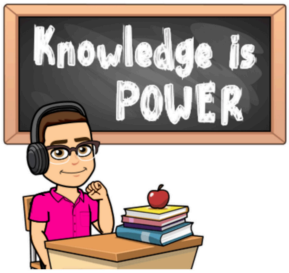

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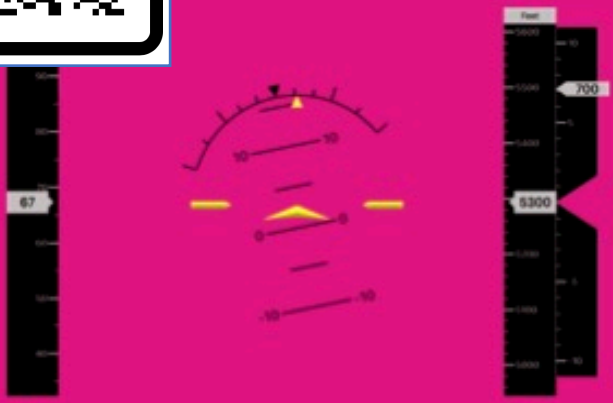

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