

## Chapter 2

Chart for C-21 Primer for G. Heart Country – Can you connect the dots?

See the next for pages for the document as this is the Plan of Action for the whole course.

<b>G. HEART COUNTRY</b>		LEARN	LEARNING	LEARNING ABOUT the JET	EXPECTATIONS	GET SET
INTRO	LEARNING	LEARNING to be an INSTRUCTOR	LEARNING ABOUT the JET	EXPECTATIONS	GET SET	<p>1. Did you check your oil?"</p> <p>2. GUIDELINES toward COGNITIVE THINKING</p> <p>3. F.O.I. SIM</p> <p style="border: 1px solid pink; padding: 2px;">FLYING the JET</p>
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1	2	3	4	5		

## A Primer for Success: Getting Ready for C-21 IP Upgrade Academics

Gary Heartsill, PhD

"Go easy on the brakes," he said. "Don't taxi in a straight line. Get the habit now of weaving a little all the time and rubber-necking, so that you can see what's in front of you." Clumsily and with too much braking, I turned into the parking row and lined up on the other ships. I climbed out and stepped to the front cockpit for his criticisms. He reached out and gripped my wrist.

"I can't feel your pulse now," he said. He relaxed the grip. "Now I can. An airplane's the same way. If you grip the controls, you can't feel what the airplane is doing. Remember that tomorrow – and relax. That's all."

"Yes sir." I started to go. He called me back. "What was the oil pressure just before we landed?" His eyes were on me. I flushed.

"I didn't check it, sir," I said. He shook his head wearily and turned to the next student, who had just walked up. I trudged toward the Stage House with a resolve forming inside me that was chiefly concerned with oil pressures and oil temperatures. **He never caught me on that score again** (pp. 70-71).

Bernie Lay  
*I Wanted Wings*

### ABSTRACT

In the past thirteen plus years over 800 students have completed the C-21 Instructor Pilot Upgrade Course. Some post course evaluation comments have suggested that the expectations of the students were different than the reality of the teaching; for sure, this is not a negative statement but an area of the course that can be pedagogically improved. This Primer is designed, therefore, to help the IP candidates in their pre-course academic activities by listing some ideas, guidelines, and some thoughts toward cognitive thinking before the balloon goes up in the classroom (where did that expression originate?).

The five day academic portion of the C-21 Instructor Upgrade Course is commonly called "Fundamentals of Instruction" (FOI) – or, *G. Heart Country* - if you want to be daring. The study areas in the course include FOI systems review, airmanship, mishap prevention, Error Management CRM, leadership, and communication skills. The class has an average of four students in each class. The five days of FOI will be followed with a one-day break and then three days of simulator training. This primer is a focus on the five day academic course with an eye on the simulator training, aircraft training at Keesler, flying back at the unit – and maybe some other things that (later on) will be helpful in a major weapon system.

### *Expectations*

The student who shows up carrying a copy of Rasimus, Olds, Boyd, Gann, Kern, or Day and asks in a demanding voice, "Hey, what time do I brief?" will be made DG on the spot; He may even be given a spot promotion!

Let me ask you a question. What kind of attitude is displayed by a lieutenant (IP Candidate) who "demands" from the get go to be in charge and wants to read from our text books? From my side of the desk he is called a "winner." In the Air Force it is called having "*IP presence*."

Note: This Primer is a guide. It is not official. It is a tool to help new instructors. Please address any comments or suggestions to [gary@ghart.net](mailto:gary@ghart.net) as I am solely responsible for the content.

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Another question: What do you call a student who sits down and begins to read *US Today* and asks, "What we are gonna do today?" You tell me...However, he may need a fireguard.

Your commander has chosen you to be an Instructor Pilot. Your unit instructors have flown, briefed, and discussed with you as much of the ins and outs of flying and instructing in the C-21as they can. Indeed, you should be proud, confident, and prepared to do your best job. Note your commanders (and others) care about how well you do. They want you to excel and be a Distinguished Graduate. We call this extrinsic motivation. Our expectations, then, are for "you to be the best that you can be."

You, by the way, would not be in the IP Upgrade Course if "you" did not want to be there. This intrinsic motivation is very important and is a point or attitude that we all look for in the IP candidates. There are some, however, who for some reason or another, do not want to be in the course. Commanders will handle this. (Thank goodness that number is real low!)

We expect you to be ready and prepared to brief the systems during the first class. Most candidates have had a recent refresher and with unit IP training (or is it teaching?) the student should even be able to pass a Keesler system ground evaluation during day one. This preparation will enable the interested student to look at systems at a higher level, give him the confidence to join his classmates in "experience dialogue," and glean wisdom vicariously from the group. Sharing wisdom, technique, and experience with the Prior Qualified Pilots in the class is educational for us all. The sharing of their MWS experience will be help for understanding the C-21 to a higher level and will be a harbinger of things to come when you move up to your next airplane.

### *Learning more about the jet*

In the arena for "effective learning" (how is that defined?) we will use guided discussions, group discussions, seminars, student briefings, movie clips, instructor (teacher?) briefings, impromptu and extemporary speaking assignments. The class will be taught at the graduate level. The class will be taught at the level of the class experience. The class will be taught under the title of "Discovery Learning." There is a difference in the andragogy (the what?) with the flying hour mix of the students. Each class is different. However, the learning objectives, the learning outcomes, and the student deliveries are the same in each class.

Adequate preparation and teaching (or is it instructing?) by the student IP candidate will facilitate the learning to a higher level. Rather than spend time in a complete refresher, we can look at the systems from an operational and instructive direction by integrating the Fundamentals of Instruction and systems review. Let me give you some possible examples of this methodology.

- (a) You will brief electrics for 45 minutes using only the DC diagram page in the Dash-One.
  - (b) You will discuss the Smoke and Fume procedure without use of the Dash-One. This procedure (as most of you already know) is treated in FOI as a Non-Boldface Boldface (NBB) procedure. "How are you going to use the Dash-One if your eyes have been closed by acrid electrical smoke?"
  - (c) Brief the class on everything you know about Mach trim, flux valves, and BTBs.
  - (d) Discuss all the boxes on the TOLD card.
  - (e) Using just the Dash-One, determine for a given close-in obstruction, the Net Climb Gradient (can you use cut-back?).
  - (f) Discuss the operation and meaning of the fuel lights during fuel transfer to a new copilot.
- Note: Do these examples hint at being "King of the Dash-One?" If so, how will you get there?

### *Learning about being an instructor*

Here is the good part: You have already been instructing (haven't you?). **Just keep doing what you have been doing.** This class will not prepare you to instruct in a Tweet (all gone now), T-1, or T-6. We will discuss laws of learning, the psychology of learning, the marvels of the brain, and how we perceive, learn, remember, and think about information (Test question!). This is the definition of Cognitive Psychology.

We will spend time learning to think and solve problems. We will go from the *rote* (the numbers, "What"), to *understanding* (the "How") to the *application* (the "Why") level (Isn't there one more?).

The laws of learning will be discussed. An example, for instance, of the *law of primacy* is the use of this Primer. You are being set up to pass, to learn, to understand on the first lesson.

*Perception* is the basis for all learning. *Insights* involve a person's grouping of perceptions. *Perceptions* result when a person gives meaning to sensations being experienced. Instruction speeds the learning process by teaching the relationship of perceptions as they occur. Did you get that? That was the whole FOI in four sentences! The only thing left is self-esteem and self-fulfillment needs. Well, we will just wait – unless you get the book first...

### *FOI learning is about having fun*

The keystone to the course, the part that makes it the most fun, is the methodological and pedagogical shift in the responsibility of the learning from the teacher (instructor?) to the student learner. Who works the hardest in class, the instructor (teacher?) or the learner? What is the answer to the question, "If the students aren't learning, the teacher ain't teaching"?

The fun, therefore, is in the student's quest for excellence. **The fun is in the quest/trek for absolutely becoming an expert in the C-21.** The fun in the class is up to the student.

### **How to be a DG before you get to class**

An interested C-21 IP student will consider the following items to be completed before the first class date. Yes, let it be known that you do not have to do any of these items – you might have been picked at the last minute to cover the slot. If you do not have any of these items when you get here, that's fine; you will still have 12 fun days to get ready. This is one of the joys of teaching, learning, and training.

Here is a list of academic items to consider:

- You will be provided with a laptop.
- The Self-Study will be in your laptop.
- Prepare short Power Point Presentations, or,
- Have an outline to brief each system. After a short overview or introduction, pick out something very specific and brief the class at an IP level. Make this a "new" and creative brief! Note: The briefings will be standup in front of the class. This is the time you will practice your "Toastmasters" presentations. We will time it, count your 'uhs,' (you cannot say 'basically' in the classroom), and grade your content.
- Prepare a short report on any mishap. Relate situational awareness, system knowledge, error management, and the human factors involved in the accident.
- Have a book report on one of the suggested books from the Air Force reading list or from the Primer's Bibliography. Discuss how it relates to being a pilot, instructor, an officer, leader, or commander. Some of these references will be used in class.

*Rules for the class...* There are only three:

**FLY THE AIRPLANE!  
FLY THE AIRPLANE!  
FLY THE AIRPLANE!**

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## Connecting the Dots

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Which dots were connected during the Fundamentals of Instruction class, also known as G Heart country? For a well prepared instructor candidate, very little, if any, systems knowledge is gleaned from this course. A well prepared instructor candidate will, however, take away some other very important lessons on what it means to be an instructor, and how to approach the business of imparting some of their airmanship wisdom to younger pilots.

The bigger, more significant dots that were connected in the FOI course deal with an instructor's attitude toward teaching. As an instructor, your job is not to spoon feed data to others, especially those lucky enough to wear pilot wings upon their chest. The primary task is to put students on the path to be able to think for themselves, solve their own problems, and become independent learners. Teaching the test, passing on academic data without the correlation to real world scenarios, is a huge disservice to student pilots.

The job of instructing should be pursued with all the enthusiasm and vigor one could possibly muster. That means spending time to find out who the student is, what their experience level is, what they are capable of, and then formulating a lesson plan to maximize their potential. A "one size fits all" approach is tantamount to square filling, and although that may fulfill the contractual obligation of an instructor hired to impart knowledge, it is less than optimal for helping a student on their path from beginner to master of the art.

For me personally, a somewhat prepared instructor candidate, these lessons were not lost on me. My thoughts and ideas regarding the role of an instructor pilot have changed slightly. My viewpoint, that an IP serves as a supervisor and guide to keep a younger pilot safe while practicing various maneuvers, has changed. My knowledge of the various systems and how I can manipulate them in emergency situations has changed. How I teach systems in the future will forever be colored by how I learned in this course.



“Tiger, one day you will come to a fork in the road,” he said. “And you’re going to have to make a decision about which direction you want to go.” He raised his hand and pointed. “If you go that way you can be somebody. You will have to make compromises and you will have to turn your back on your friends. But you will be a member of the club and you will get promoted and you will get good assignments.”

Then Boyd raised his other hand and pointed another direction. “Or you can go that way and you can do something – something for your country and for your Air Force and for yourself. If you decide you want to do something, you may not get promoted and you may not get the good assignments and you certainly will not be a favorite of your superiors. But you won’t have to compromise yourself. You will be true to your friends and to yourself. And your work might make a difference.”

He paused and stared into Leopold’s eyes and heart. “To *be* somebody or to *do* something. In life there is often a roll call. That’s when you will have to make a decision. To *be* or to *do*? Which way will you go?” (pp. 285-286).

God Bless the reading of John Boyd.



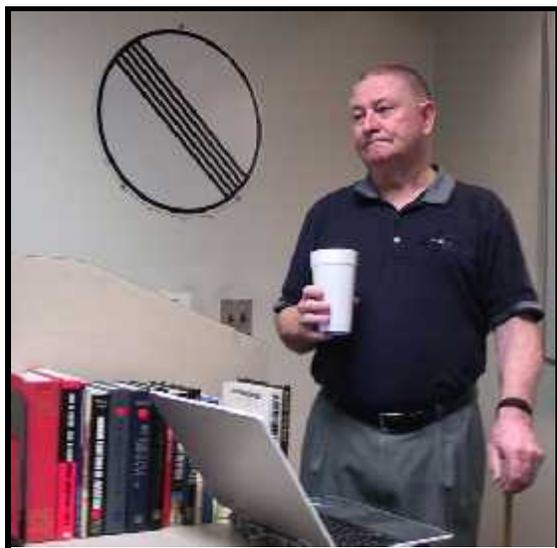
*There are no limits in my class.*

One of my lieutenants found this German autobahn sign on Craig's list and presented it to the Country of G. Heart...he did well in the class finals. Course, I am going to rag new students till they come up with what the sign means but comma now that the Mercedes benz is out of the bag, the left lane is for driving as fast as you want (recommended speed of only 130 kilometers per hour).

The no speed limit in the class has to do with (as on the autobahn) freedom, or freedom of speed and this translates into no hindrance in the learning process. As long as one stays in the left lane 'let it rip!'

Some may think having no strains, no Vne, and no restrictions, would hinder the operation of learning the fundamentals of instruction. Actually no. Actually no, it did not.

Of note about being in the left lane (you have to understand Germans) if a driver comes up on someone driving slower than he should, and is in the way, the pushing driver will flash his lights to get the slower driver out of his faster lane. Honking would be rude.



One day while stamping out aviation ignorance.

As you can see in the picture above something is out of place and it is not my ubiquitous coffee cup. I had just returned from a refill and am addressing some rather surly comments from enterprising lieutenant about me not paying attention to what is going on...in my classroom! Not backing down from tweaking a young candidate on the issues of paying attention to detail, in my classroom, I am texting myself below with “what in the hell is he up to?”

And then I get the hint to look around.



Sub vocally I am saying something like “What? ^%\$#! How?” As they have gotten up close in my jet wash they are now flashing their lights in my rear view mirror...damn it, I hate when that happens.



Ok, Lieutenant. You win. You beat me - you won this one!

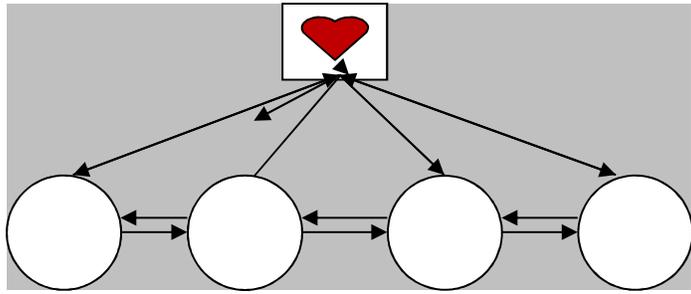


Now your ass is a grape.

FINIS ORIGINE PENDET

“The end depends on the beginning.”

A. This is what most lieutenants were expecting:



B. And this is what they got:



### A ZINGER SHEET!

The Zinger Sheet instructions were to write down something every hour that someone said in class that was worth hearing/remembering/recording. This is also called a poor man's journal – I will try to check this everyday (and sometimes by the hour) – depends on how many in the class.

Of course a good instructor is seeking feedback to see if what he is teaching is getting heard...

So, for the flavor of what they heard there are two or three Zingers at the end of some chapters.

(I did ask about the 18 or so marks on the one below on the last day of class. I said "Well, use of the F bomb for the whole week was not that bad." The student replied "Yes sir I agree, but after the first two hours, I quit marking.")

Glasgow County "ZINGER" Sheet/Log		patch on flag by a pilot long static	not back to F Bomb !!!	THH THH THH !!!
- Fly the Airplane	- would have so we can sumo it Peter or full long back	- we wouldn't stop but it's not worth not full of it	- saw ways to course the word, one might, we don't never give up!	- remember that is? hearing for me and I back you!
- no restrictions to learning	- always point the nose, don't let wing, get sun small	- cut the pages, crop on out, salt & paper & cut on again!	- nothing to be you can't struggle going underneath flexibly to do it	- put your clothes on and give your bitch!
- realize essentials	word paraphrasing - having a good mind/understanding	- I want to be self, self, and self!	- who cares about a wikipedia keyword response	- do what I do best! - participating
- buy needed material on teaching	- these are the books to try and write - Thomas figure - want to go back	- probably for all you don't take more papers	- pedagogy - it is legal in classroom by the way	- everybody grab a bottle and push it up!
- get rid of other instructors to learn of them	- you can't do it your points but your not going to say the word, self!	- we were you were about your airplane the better pilot will be - SCREW	- the the the - better, better in a week hand is about all that's left	- first class that I want that I have been best!
- release vs extensive inclusion and with	- get in there up banks, buy it, but it costs it - and put it	- as soon as you are back here and assume the position	- I was trying to put it in in the bag of shit	- look my kids to clubhouse Zoo or choose!
- Swiss cheese model	- follow something - how your students - know your students	- fight the heat - fly - of lady, - tell me this	- what method is how you spend the cash	- knock before entering, I'm in business for! - call me your sister
- AWC/I = FFA	- why would you pick so & piece up of these activities	- I you ever back to jump the fence - things - day, day day	- when do I shut it	- he didn't say anything, not thank you or kiss my ass

words:  
big words, Participatory,  
constituted  
activities

- words, industry, etc.