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Necessary, but not Sufficient: What Flight Training Organisations Teach is No Longer Adequate for a Demanding Market that Needs 'Captains Out-of-the-Box'

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NTAS 2.0 at Embry-Riddle Aeronautical University's Daytona Beach Campus — August 14 - 16, 2017

Training Pilots of the Future - Techniques & Technology



NECESSARY - BUT NOT SUFFICIENT:

What Flight Training Organisations Teach is No Longer Adequate for a Demanding Market that Needs...

'CAPTAINS OUT-OF-THE-BOX'

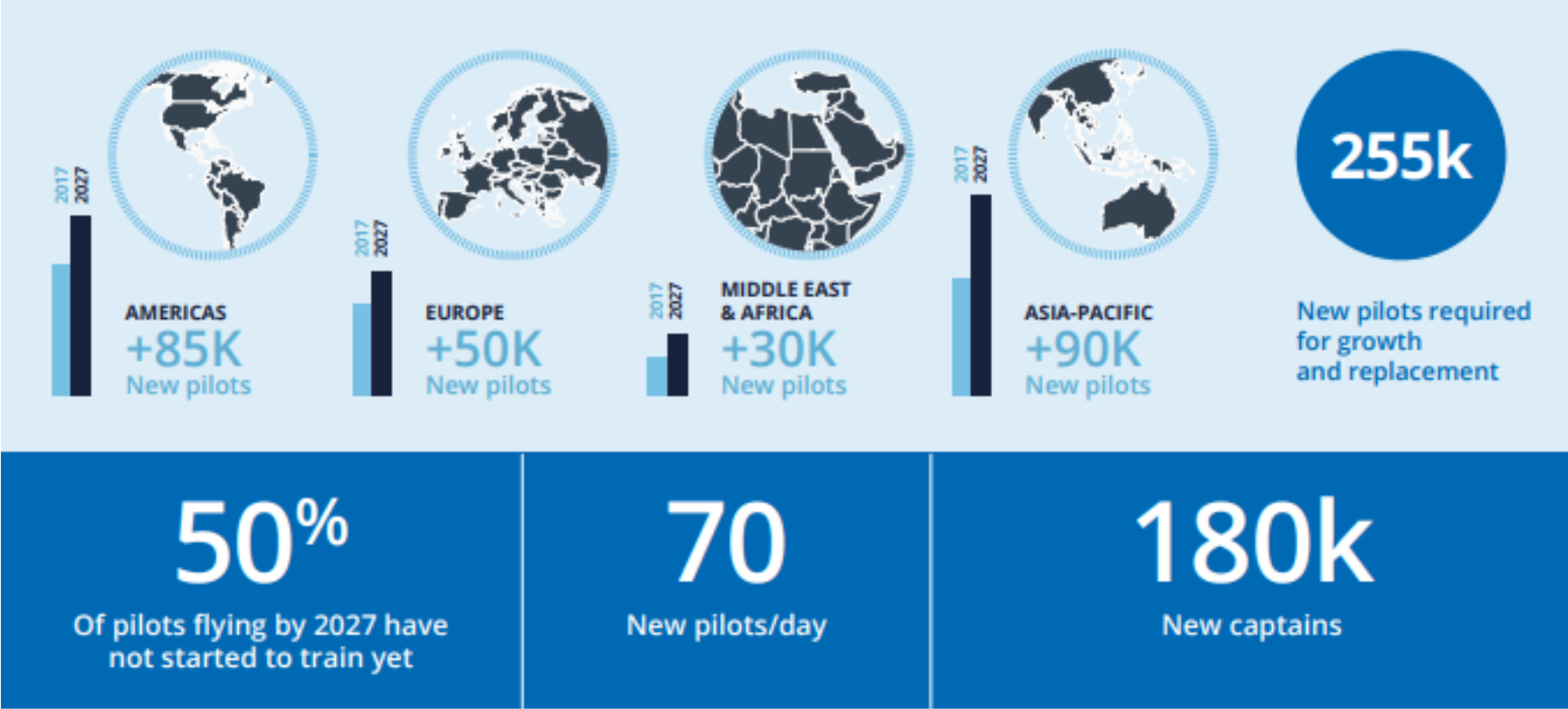
Capt Mike Mylan BA MSc FRAeS

What?

A FAST-GROWING LOW-COST ASIAN AIRLINE'S PROBLEM:

- “We are expanding faster than we can mature our first officers to command.”
- “We must distil the command knowledge and maturity, traditionally attained through ten years of right-seat osmosis, into three years.”
- “Most basic CPL/IR + Type Rating candidates are inadequate for this.”
 - 4. “We must recruit Captains-In-Waiting.”

“Over 50% of the pilots who will fly the world’s commercial aircraft in 10 years have not yet started to train.”



DO THE MATH(s)

=  +  CAPTAINS PER HOUR



“Not properly planning for the growing pilot shortage could very well put some airlines out of business.”

The Salt Lake Tribune

July 3, 2017

Utah flight programs increase fleets, partner with airlines to meet 'insatiable' demand for pilots.

So What?



‘Welcome aboard, this is your first officer speaking.’

**MY FATHER PAID FOR MY TRAINING
SO I DIDN'T HAVE DO AN APTITUDE TEST.
I HAVE 200 HOURS SINGLE ENGINE
PLUS THIS JET TYPE RATING
SO SIT BACK, RELAX AND ENJOY YOUR FLIGHT**



FlightGlobal

Pioneering Aviation Insight

08 NOVEMBER, 2016 SOURCE: FLIGHTGLOBAL.COM BY: DAVID LEARMOUNT LONDON

How to turn qualified pilots into competent pilots

The European Aviation Safety Agency is working with airlines on a post-CPL/IR course of 4 classroom days plus 40 simulator hours – the Airline Pilot Certificate.

This is being done because the present system produces pilots with licences that make them legally qualified to fly...

but half of whom – according to the airlines – are NOT good enough!



June 29, 2017

Beginning pilots could swap classroom training for flying under Senate bill

**(FAA First Officers used to qualify with 250 hours of flight time,
rather than the 1,500 hours they require now.)**

Now What?

**THREE YEARS TO
COMMAND?**



I want to be a PILOT!

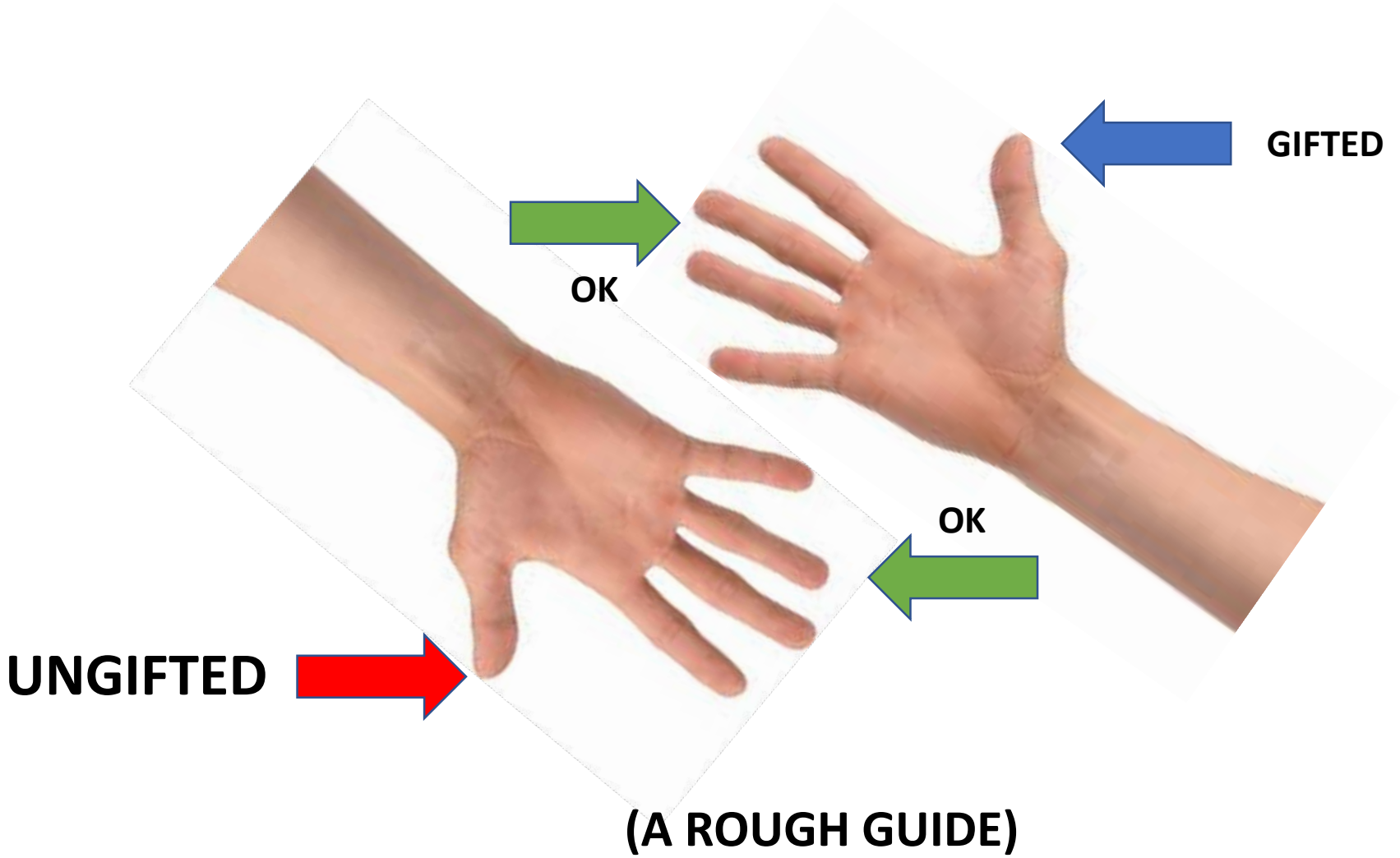
DREAM





© CC BY-NC-SA

PARETTO'S 80/20 PILOTS



EasyJet UK



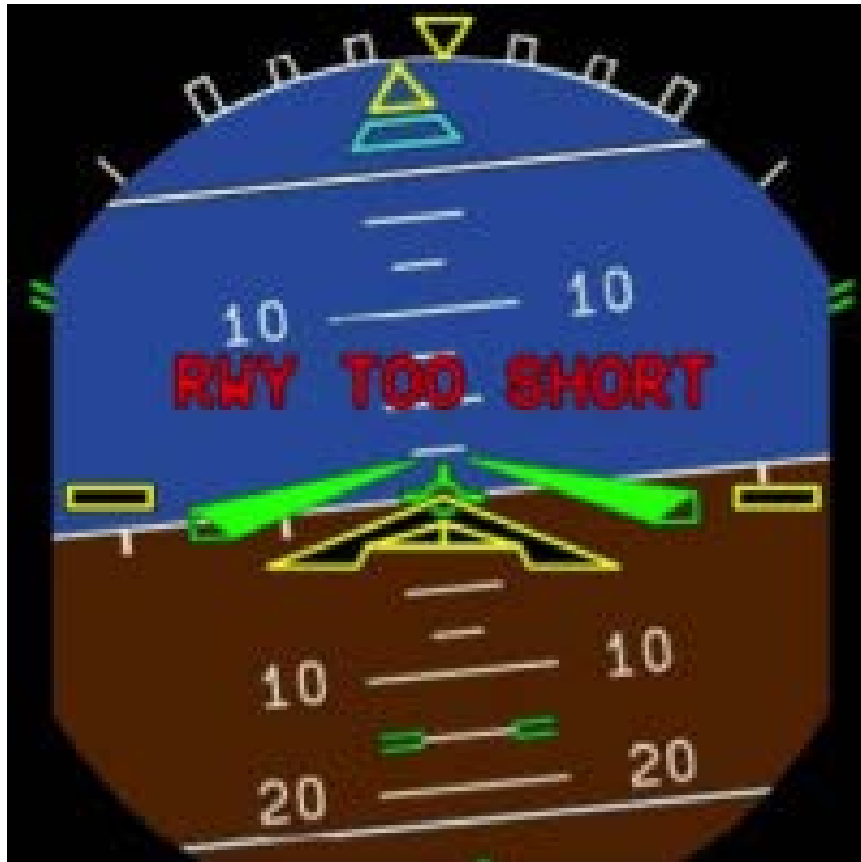
**First Officer
Luke
Elsworth
19**

**Captain
Kate
McWilliams
26**

© EasyJet

**Ten years of experience
is no guarantee of competence**

“Go Around!”



1999 Qantas Flight 1 @ Bangkok
2000 Southwest Flight 1455 @ Burbank
2007 Garuda Flight GA200 at Adisucipto

2016 ASL for DHL Milan

Wet (10kts h/w night)

25 mph too fast

3 x too high

14" float

Landed >>> 2000 m

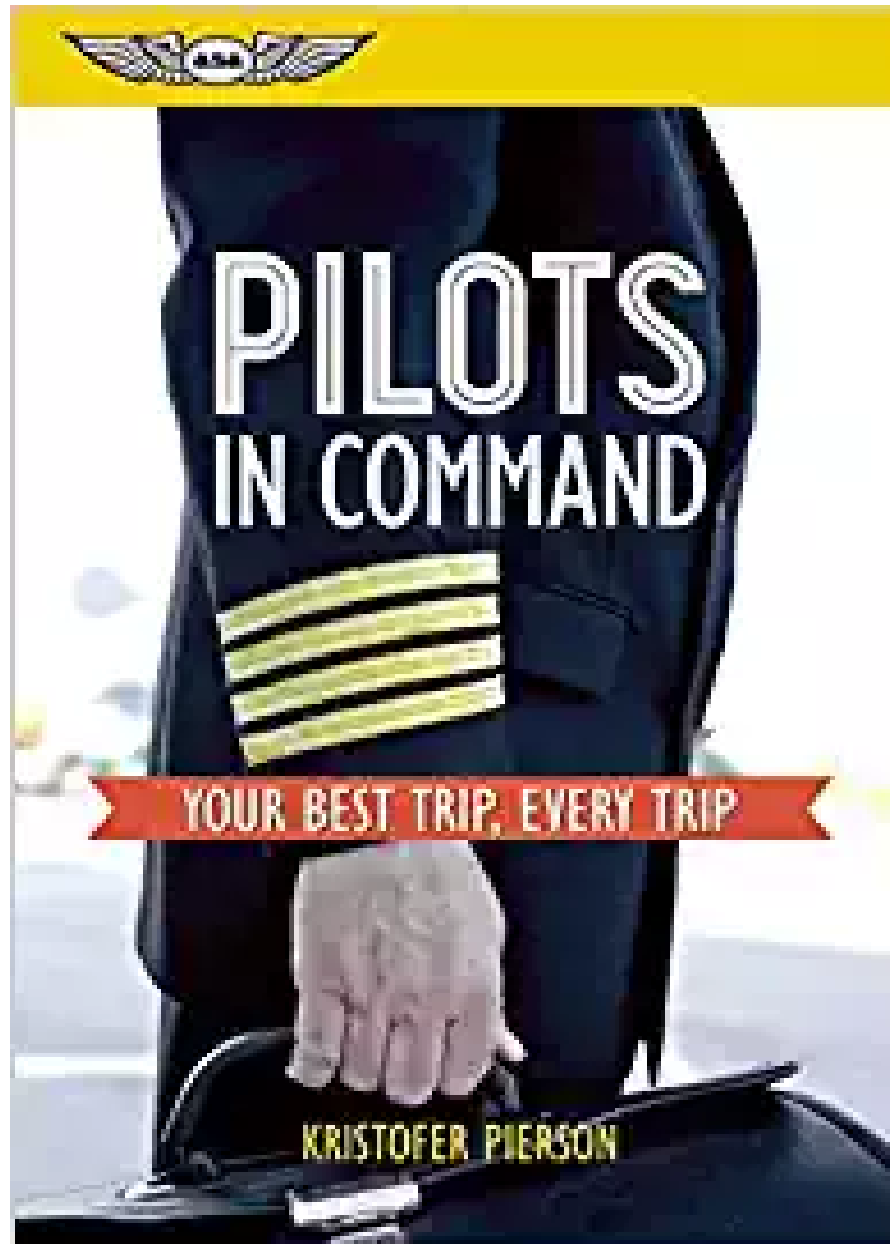
Runway 2800 m

Perimeter fence @ **125** mph

Two roads, a parking lot, a
highway lane & **another**
highway lane.



Textbook



No 1



Industry Knowledge

SITE VISITS (FIELD TRIPS) TO COMMANDERS' INTERFACES

FLIGHT ATTENDANTS © beautyglimpse.com



LOAD SHEET © CC BY-SA



MARSHALING © Newcastle Apt



AIR TRAFFIC CONTROL – RADAR © CC BY-SA



AIR TRAFFIC CONTROL - TOWER © CC BY-NC-ND



REFUELLING © CC BY-SA



CATERING TRUCK © CC BY-SA



HONEY CART!
© Mascot Institute



JET BRIDGE © Aviation Stack Exchange



PUSH PACK © CC BY-SA



MET OFFICE © CC BY-ND



MAINTENANCE © CC BY NC-ND



PASSENGERS © CC BY NC-ND



ARFF © CC BY-ND



SECURITY © LinkedIn

Flight Safety

australia

97

March–April 2014

Don't believe your ears | Spatial disorientation continues to kill
Taking the plunge | Helicopter underwater escape training

FAA Safety

BRIEFING

July/August 2017

Your source for general aviation news and information

SKY brary

The single point
reference for aviation safety knowledge

Operational Issues



Air Ground
Communication



Ground Operations



Runway Excursion

Human Performance



Airspace
Infringement



Airworthiness



Runway Incursion

Enhancing Safety



Bird Strike



Level Bust



Wake Vortex
Turbulence



Controlled Flight Into
Terrain



Loss of Control



Weather

Safety Regulations



Fire Smoke & Fumes



Loss of Separation



Emergency and
Contingency



“Taxi and pushback are unglamorous, often overlooked and sometimes dangerous parts of every airline flight.”

Wings act as giant brooms which sweep people and objects off high places.



[View Media1](#)

You have just landed and Crash Fire Rescue...



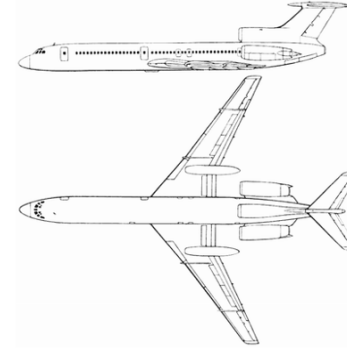
Airliner Identification Quiz

How well do you know your airliners? Take the quiz below to find out! — New batch of questions every time —

1. Airbus A330
 Tupolev Tu-154M
 Boeing 777-300
 Boeing 737-300



10. Airbus A330
 Embraer ERJ-170
 McDonnell-Douglas MD-80
 Tupolev Tu-154M



Submit Your Answers

Aircraft Recognition



Aircraft Recognition

Bombardier CRJ900 © airBaltic

35



Aircraft Recognition

Embraer 175 © British Airways

36



Aircraft Recognition

Irkut MC 21 ©

37

VALIDATION by PASSENGERS

BY QUESTIONNAIRE (tested on 50 pax)

- Air Traffic Controllers are trained in Aircraft Recognition
- They can instruct Airline Captains to enter a runway “after the Boeing 757 has landed.”
- But Airline Captains are NOT trained in Aircraft Recognition.

➤ Is this safe?

QUESTION #1

Should Airline Captains be trained in Aircraft Recognition?

“Should Airline Captains be trained in Aircraft Recognition?”

YES



NO



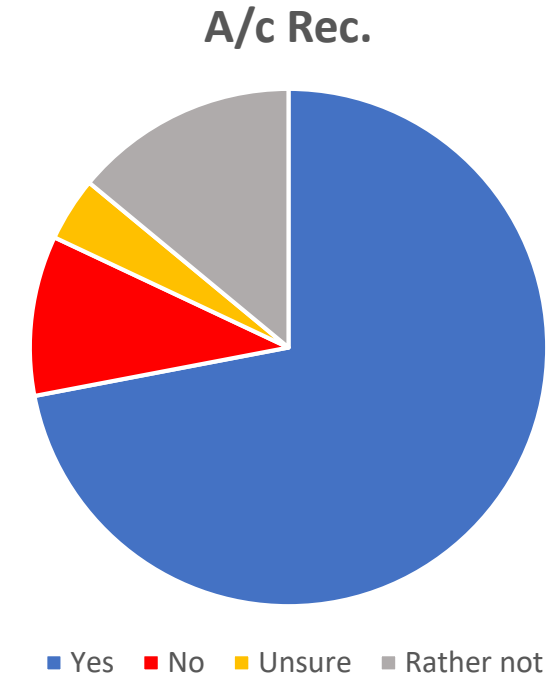
UNSURE



RATHER NOT



Thank you! 😊

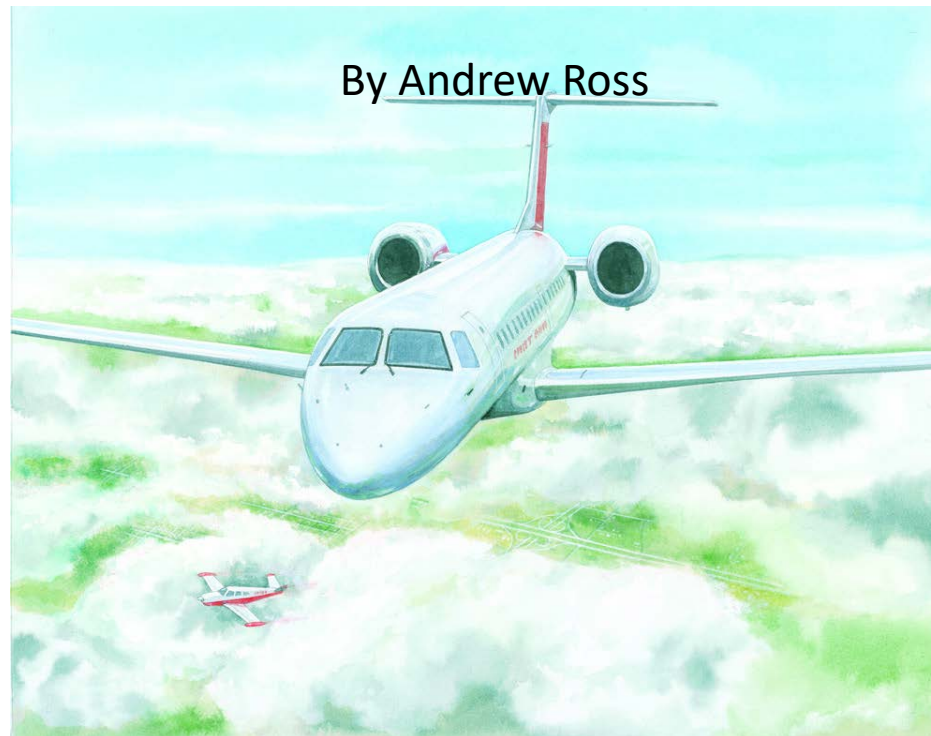


[Media2](#)
Flyingwithcaptainjoe

FLYING

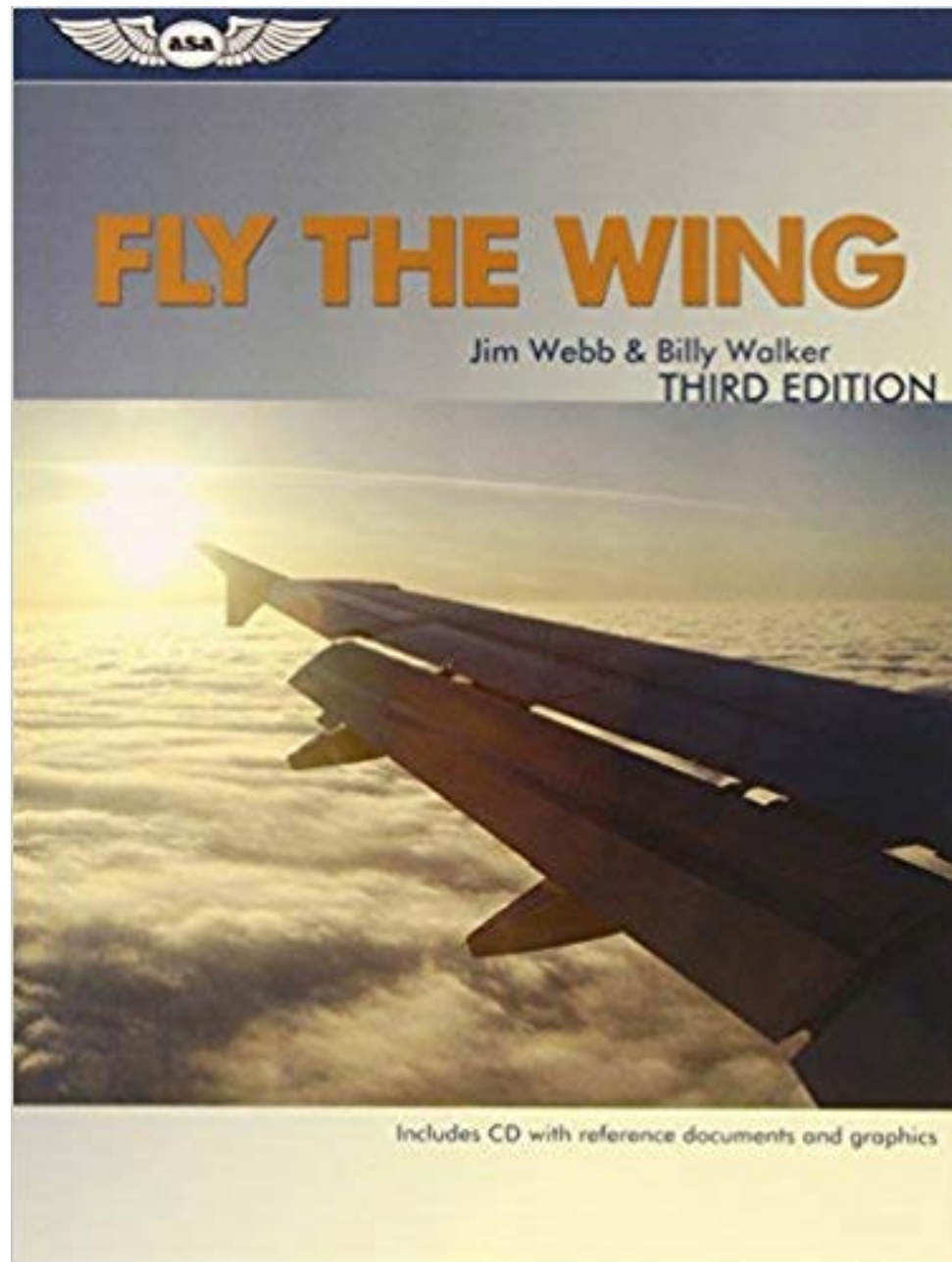
I Learned About Flying From That:

An Airline Crew's Close Call. Why you should always be aware of your surroundings.



© barryrossart.com

Textbook



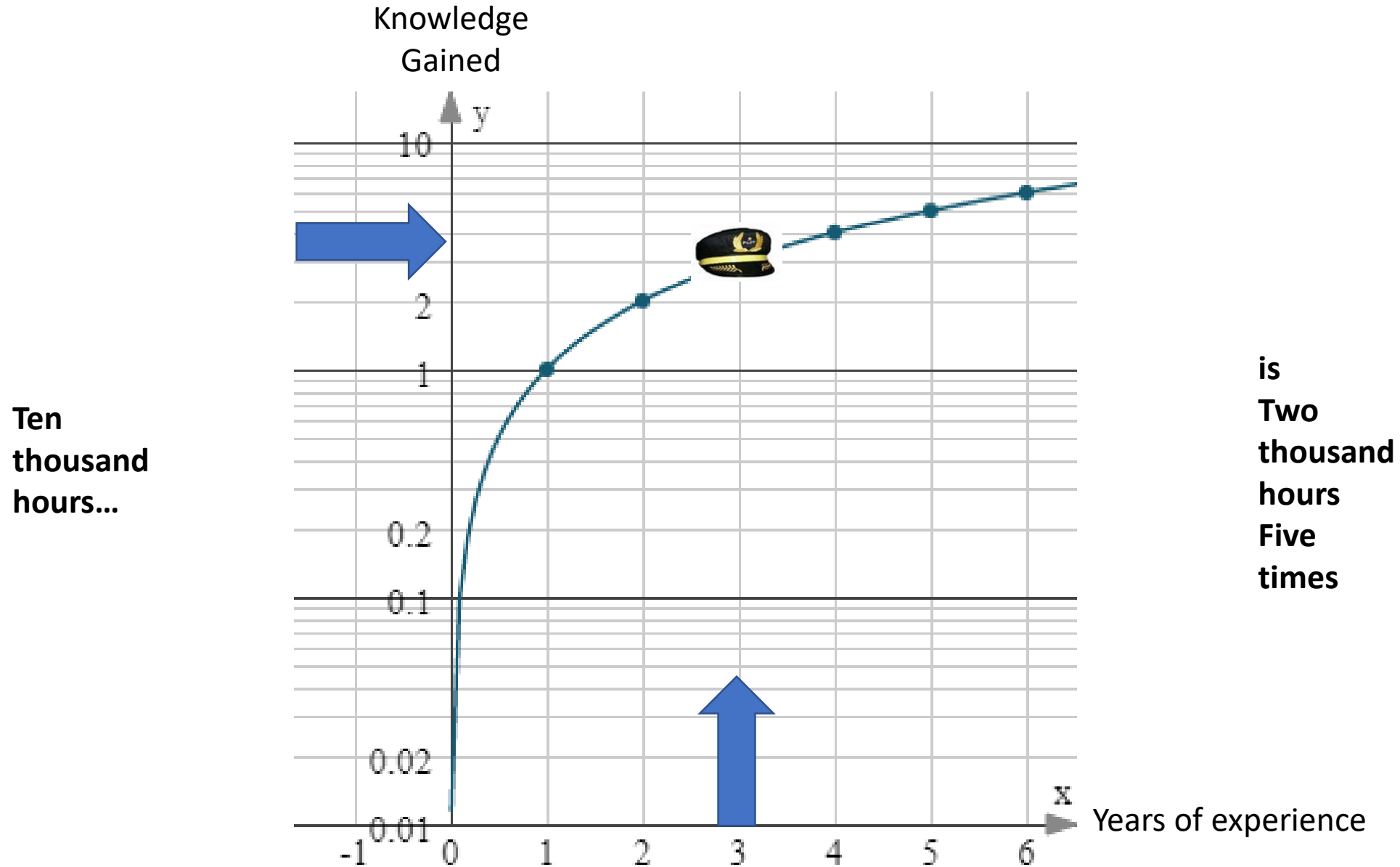
No 2

3 YEARS

1,500 SECTORS

(50 sectors a month, 10 months per year = 500 sectors p.a.)

IF THE CAP FITS – WEAR IT



Empirical semi-log graph to illustrate a three year experience point.

3 Years to Command satisfies Noel Burch's 4 Stages of Competence



The Captain First – Pilot Later Concept (CFPL)

WHO GAINS, WHO LOOSES?

Students gain / experience / interview advantage / earlier command / and financial return.

Airlines gain / well rounded entrants / 'right' thinking / with command 'smarts'.

Passengers gain / the same as the airlines!

WHO LOOSES?

No one.

ACADEMIC VALIDATION



This will be a 5-year project

It could be worth one of these...



INDUSTRY VALIDATION

Now is the time for this concept to be aired, whilst we are at the beta stage, to obtain feedback from key industry players such as yourselves. This presentation of concept will be made in the USA, Asia and the UK this year.

And when development and beta testing show the results we expect, we will write to Airlines for comment and endorsement.



From The Kids Domain
www.kidsdomain.com
free for educational and non-profit use



Please contribute to this 'Captain First-Pilot Later' (CFPL) concept by emailing your thoughts / ideas / CRITICISMS / to: consultants@Aerudite.aero

THANKS!