Current Issues in Pilot Training/ITQI

16 April 2013
Current Issues in Pilot Training/ITQI Panel

- Jens Bjarnason, Director Operations, IATA (moderator)
- Hartmut Fabisch, UPRT Specialist, IATA
- Dieter Harms, MPL Specialist, IATA
- Alan Stealey, Divisional SVP Flight Operations, Emirates
IATA Training and Qualification Initiative (ITQI)

Launched in 2007 with the objectives to:

1. Modernize/improve pilot and maintenance mechanics training
2. Seek harmonization and market permeability to meet the future needs of the aviation industry and allow a flexible, qualified workforce
3. Identify means to improve industry attractiveness to younger generations
ITQI – A Total System Approach

From the selection criteria to training and assessment:

- Selection Criteria (Pilot Aptitude Testing)
- Multi-Crew Pilot License (MPL)
- Evidence-Based Training (EBT)
- Instructor Qualification (IQ)
- Flight Simulation Training Devices (FSTD)
- Engineering & Maintenance (competency-based training and qualification requirements)
Published - IATA Guidance Manuals to Support Implementation
ITQI Next Steps

- Supporting and leading «Outreach Initiatives»
  - ICAO Next Generation of Aviation Professionals Task Force
  - IPTC Outreach Workstream

- Promoting and supporting the implementation of MPL, EBT and Competency-Based Training in Maintenance
  - Operators and regulators have already requested IATA’s support to implement these programs

- Combatting the increasing rates of loss of control in airline operations through required Upset Prevention and Recovery Training (UPRT)
  - Supporting drafting of of ICAO Manual on Aeroplane Upset Prevention and Recovery
Building on ITQI’s Achievements

The International Pilot Training Consortium (IPTC)

A new force for global consensus on Airline Pilot Training

Now adding broader reach to the implementation and harmonisation of airline pilot supply and training
Multi Pilot License (MPL)

Dieter Harms
MPL Specialist, IATA
Prepare for the Unforeseen

The Challenge
In our complex world of aviation it is simply impossible to train the infinite number of all possible abnormal and emergency situations as a means to prepare for the Unforeseen.

The Solution
From Inventory Based Training to Competency Based Training
The competency based training principle

- Is based on the insight that inventory based training and the repetition of past accident scenarios is insufficient to prepare pilots and crews to successfully handle the infinite number of unforeseeable situations.


and that only the existence and the continuous application of a set of Core Competencies enable pilots and crews to operate safely, efficiently and effectively and manage the threats of modern civil aviation.

But this needs a paradigm shift
Why is MPL a module of the solution?

- Because it applies the competency principle to pilot ab-initio training
- Because it is an ab-initio training method that equips our crews with the Core Competencies to successfully handle the challenges of modern civil aviation operation
Definition of Pilot Core Competencies

- A group of knowledge, skills and attitudes and related behaviors, which describe how to operate modern multi-crew transport airplane safely, effectively and efficiently. They describe what proficient performance in all phases of flight operation looks like.
Pilot Core Competencies (hand out!)

- Application of Procedures, AOP
- Communication, COM
- Aircraft Flightpath Managmt-Automation, AFM-Auto
- Aircraft Flightpath Managmt-Manual; AFM-Man
- Leadership and Teamwork, LTW
- Problem Solving and Decision Making, PSD
- Situation Awareness, SAW
- Workload Management; WLM
The paradigm shift

- The level of the completion of a task is measured by the level of the application of the Core Competencies and their Behavior Indicators, which differs in sequence and weighting from one task to another.

- This goes beyond the simple fulfillment of the required standard.
The Total System Approach to prepare our crews for the job

- The Core Competencies and their respective behavior indicators are the measurement criteria for:
  - the selection process of future airline pilots
  - the continuous assessment during MPL
  - the performance assessment in Evidence-Based Training and Checking (EBT)
  - the selection and qualification of instructors and examiners
Global Status

- **12/2010**
  - Students enrolled: 1000
  - Graduates: 180

- **08/2011**
  - Students enrolled: 1400
  - Graduates: 376

- **11/2012**
  - Students enrolled: > 2000
  - Graduates: > 700

...growing rapidly especially in Asia
Thank you
Evidence Based Training (EBT)

Jens Bjarnason
Director Operations, IATA
Upset Prevention and Recovery Training

Hartmut Fabisch
UPRT Specialist, IATA
Status

- FAA
  - * AC 120-109
    (06/2012, Stall and Stick Pusher Training)
  - * 208 ARC Report (12/2012, UPRT)
- ICATEE
  - * Manual to ICAO (12/2012)
- ICAO
  - * “MAUPR”
    Manual on Aeroplane Upset Prevention and Recovery (expected in 2013)
- EASA
  - * SIB 2013-02 Stall and Stick Pusher Training
  - * Workshop LOC-I (02/2013)
Expected Outcome of ICAO „MAUPR“

Single Pilot
On-aircraft UPRT
(MPL + CPL)

Multi-Crew UPRT

- *generic* (MPL)
- *type-specific* (MPL, Type Rating, Recurrent Training)
Essentials of UPRT

- Focus on prevention – competency based training using the Core Competencies
- Aerodynamics + Performance knowledge is key
- Instructor knowledge and standardisation need upgrade
- Stall is related to AoA only - recovery techniques focus on AoA reduction
- Surprize and Startle are to be addressed
- Current FSTD technology satisfactory for basic UPRT, IOS upgrade required
STALL

Approach-to-stall

Excessive AoA

FSTDs validated

FSTDs not validated

Stall Warning

Aerodynamic Stall

Maximum lift

Critical angle of attack

Angle of attack

Lift
UPRT Scenario Design

1. ATO/Operator decides on training objective / scenario
2. OEM is consulted for NTO
3. Approval from authority - Execution of training

Use

*Airplane Upset Recovery Training Aid “AURTA”!*
Thank you
Develop a new paradigm for competency based assessment and training of airline pilots based on **evidence**

**Phase 1 Recurrent**
1. ICAO Doc 9868 PANS-TRG
2. ICAO Doc 9995 Manual of EBT
3. EBT Implementation Guide
4. Data Report for EBT

**Phase 2 Type Rating**
Operation System Environment

Repetitive & foreseeable
Evidence
What we know

Unique & unforeseeable
No evidence
What we don’t know

Competencies

To manage the foreseen AND the unforeseen

Current Issues in Pilot Training/ITQI
Application of Procedures
Communication
Flight path management – automation
Flight path management – manual
Leadership & teamwork
Problem solving & decision-making
Situation awareness
Workload management
Failures are less likely with modern, reliable technology ...

When humans and technology interact, there are a huge number of possible outcomes ...

Develop resilience to events through exposure ...
**Objective**
Assess competence
Identify training needs

**Conduct**
Line Orientated Evaluation

**Evaluation**
Train manoeuvre skills to proficiency

**Manoeuvres Training**
e.g. RTO, Engine-out manoeuvre, and Go Arounds *(New)*

**Scenario Based Training**
Develop resilience by exposure in a learning environment

**Line Orientated Training**

Current Issues in Pilot Training/ ITQI
EBT Next Steps

✔ ICAO Doc 9868 PANS-TRG Applicability 3rd May 2013
✔ ICAO Doc 9995 Manual of EBT Applicability 3rd May 2013
✔ IATA EBT Data Report April 2013
✔ EBT Implementation Guide April 2013
✔ FAA Endorsement
✔ EASA Rulemaking task 2014
✔ CAAC CCAR 121 R4 requirement
Recurrent Training Cycle

- Line Observations
- Flight Data Analysis
- Training Metrics
- In-service Events
Question 1

How can we expedite the transformation of training from a system based on flight hours to a system of pilot competences?
Question 2

Is the issue of pilot shortage currently an issue in your organization?
Question 3

Do you foresee a pilot shortage in the future?
Question 4

Has IATA a role to play in addressing shortage of pilots?
Question 5

Why hasn’t pilot permeability increased more?
- Lack of regulatory action?
- Resistance by key stakeholders?
Coffee Break

Sponsored by:

GHS Aviation Group