

LEARNING EFFECT?

COMPETENCE BASED
TRAINING?

TECHNICAL TRAINING

– *“Not just a Tick Mark”*

SIMULATIONS?

● Scenario-Based Training into the
Classroom Training Environment

BY

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ASSESSMENT OF SKILLS

Agenda: A Short Introduction

Active Learning

Scenario-Based Training

Benefits

Way Forward



*“Tell me and I forget,
teach me and I may
remember,
involve me and I learn”*

- Benjamin Franklin

Human Error Management Strategies

- **Understanding the nature and extent of error or risk**
- **Changing the conditions that induce the error**
- **Determining the behaviours that prevent or mitigate error**



ACTIVE LEARNING

INTERACTIVE LEARNING of SKILLS

- ✈ Learning by Doing in a Simulated Reality
- ✈ It is **SAFE** and there is **No Inherent Risks**
- ✈ Individual learning of Skills
 - in a dynamic social environment
- ✈ Observation of Behaviours
- ✈ Easy Assessment of Non-Technical Skills



COMPETENCY-BASED TRAINING and ASSESSMENT

✈️ Scenarios for Training and Assessments must be:

Realistic – a simulation of reality

Simple – simple presentation of complex problems

Precise – clear and precise learning objective

Well-designed – focus on the *learning*, not technology

Measureable for the learning effect – i.e., Assessments



ANALOQUE or DIGITAL?



BONUS: Assessment of Non-technical Skills by focussing on observable behaviours

Non-Technical Skills Categories

TEAMWORK

LEADERSHIP & MANAGERIAL SKILLS

SOCIAL SKILLS



COMMUNICATION

WORKLOAD
MANAGEMENT

THREAT & ERROR
MANAGEMENT

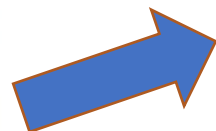


SITUATIONAL AWARENESS

DECISION MAKING SKILLS

COGNITIVE SKILLS

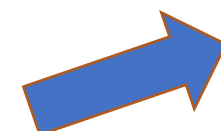


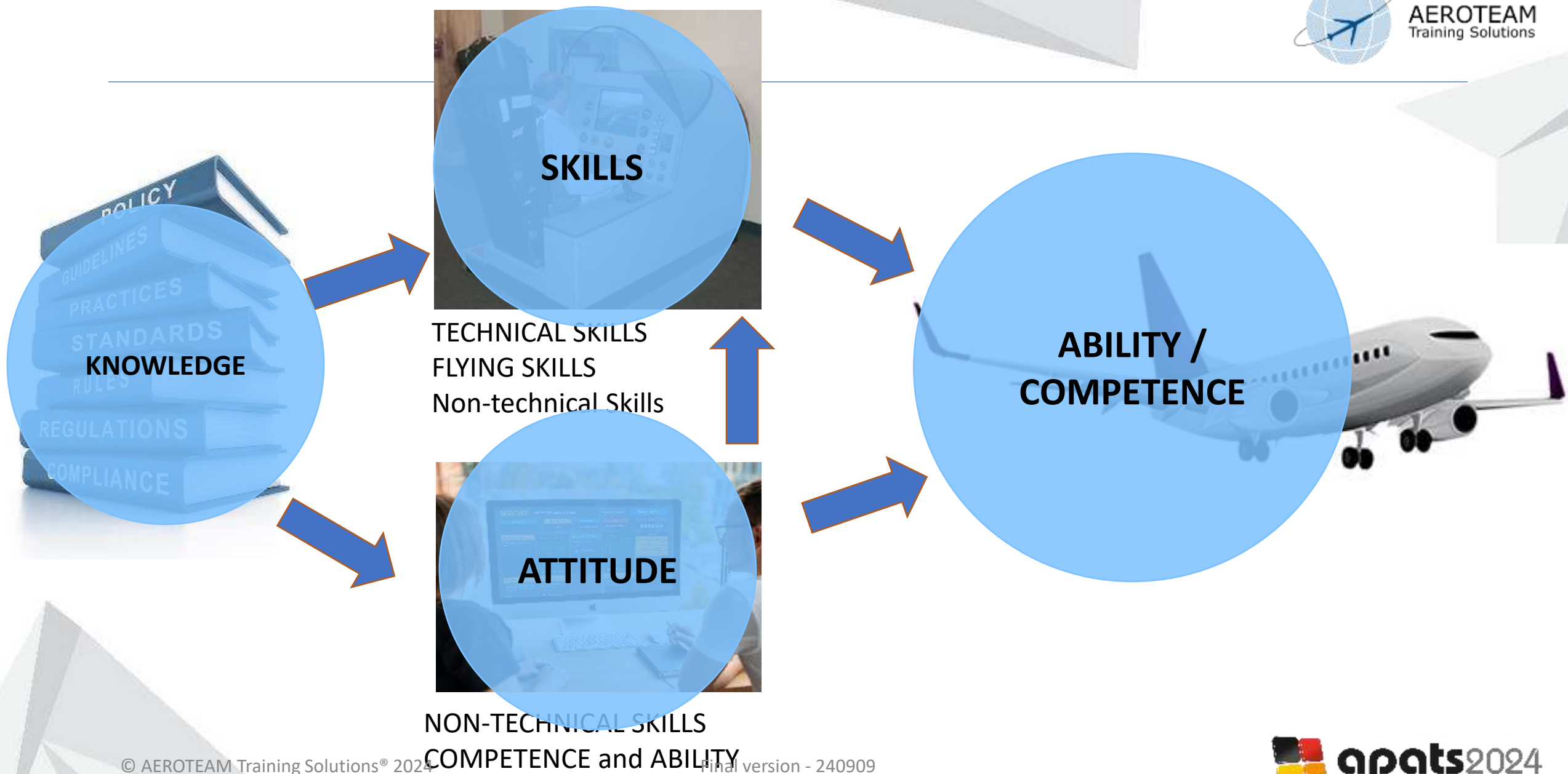


TECHNICAL SKILLS
FLYING SKILLS
Non-technical Skills



NON-TECHNICAL SKILLS
COMPETENCE and ABILITY





FACILITATION – HOW DOES IT WORK?



- Realistic Training Scenarios →
- Dilemmas to Create Discussions
- Give a few solutions – All plausible for discussions
- Highlight Possible Consequences
- Define Focus Areas

CREW SELECTION



Walther Harrison

Title: Pilot

Age: 44

Walther is very experienced after 10 years as a fighter pilot in the Royal Airforce in the UK followed by seven years as commercial pilot. Never in doubt and calm as a rock. Rumor says that he once crashed a jet fighter during training in the US.

MayDay 1.0 crewmember 1



Joan Lindström

Title: CA1 / CA

Age: 42

Joan is a very experienced stewardess and usually in the role as purser. She does not like too much small talk and apparently has no humor.

MayDay 1.0 crewmember 2

DILEMMA

Weather at destination ②

Check-in 1.3

Weather is deteriorating and snow clearing of runways is possible.

☐☐

A: Load extra fuel

Default: Stick to the original fuel calculation.

BCN-CPH

Monday 1.0 event card no 4

Oven and coffee machine ②

Preflight 2.4

There is no power in two outlets out of six in forward galley.

☐☐☐

A: Call for a technician to fix the outlets.

☐☐

B: Check C/B and call for a technician to disconnect the two outlet modules.

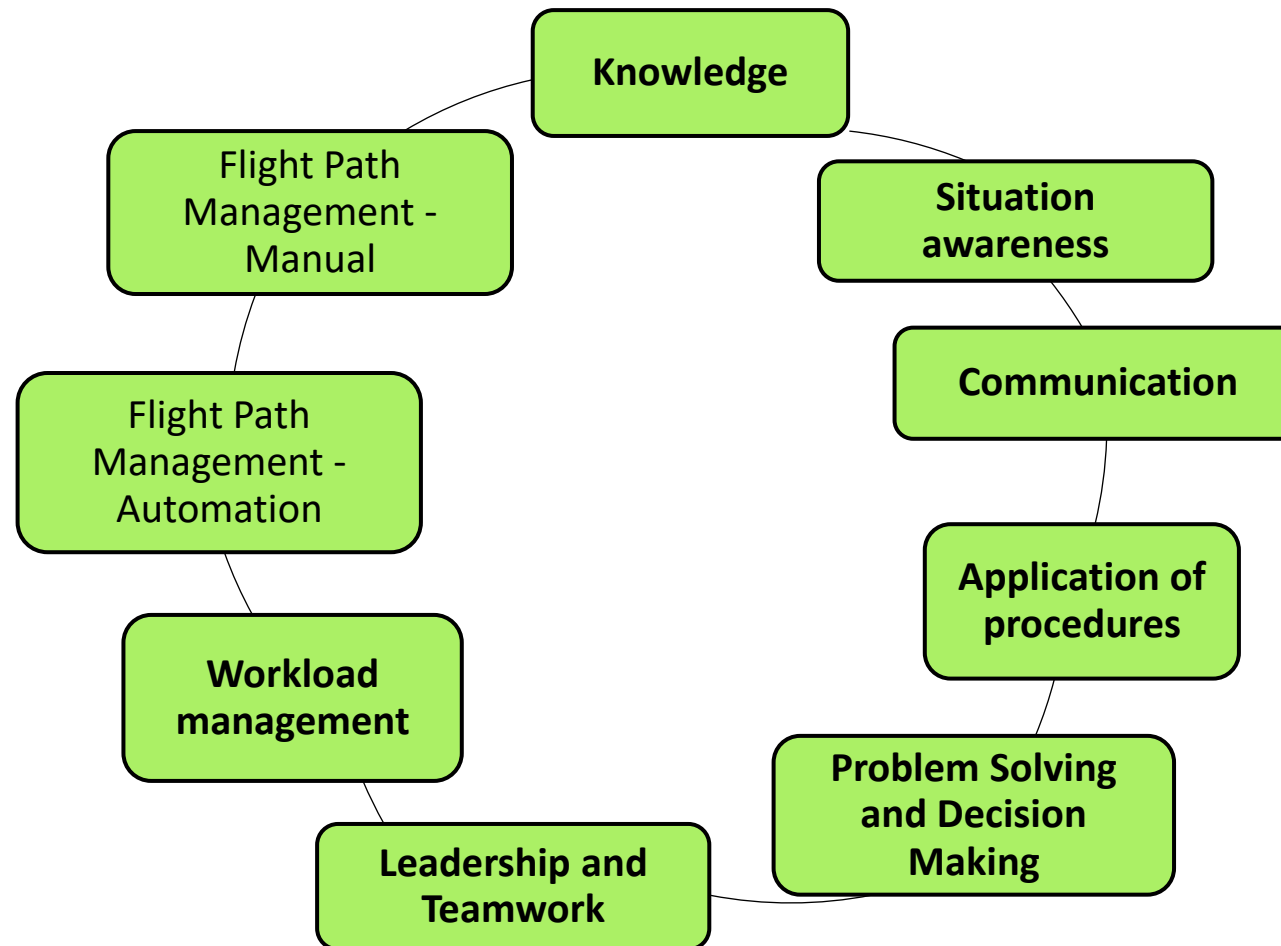
Default: Use other outlets.

BCN-CPH

Monday 1.0 event card no 10

9 CORE Competencies

ICAO EBT Doc 9995



ASSESSMENTS



FORMATIVE ASSESSMENT

- **Help students** identify their strengths and weaknesses and target areas that need work
- **Help faculty (Instructors)** recognize where students are struggling and address problems immediately and improve the training

SUMMATIVE ASSESSMENT

- **Evaluate student learning** at the end of an instructional unit by comparing against some standards or benchmark.

Competency Assessment Matrix

Competency Assessment Matrix									
Formative / Summative Assessment		COMPETENCY MAP							
CRM recurrent Training		Oral / Written	Communication	Leadership & Teamwork	Problem solving Decision making	Situation Awareness	Workload Management	Threat & Error Management	
MAYDAY CRM Training									
Description	Desired outcome								
Task / exercise	What would we like to see.								
Task / Exercise	Expected behaviours								

Competency Assessment Matrix

Competency Assessment Matrix								
Formative Assessment – Classroom		COMPETENCY MAP						
CRM recurrent Training		Oral / Written	Communication	Leadership & Teamwork	Problem solving Decision making	Situation Awareness	Workload Management	Threat & Error Management
MAYDAY CRM Training scenario # 1								
Description	Desired outcome							
Crew Selection	Open communication, everyone participate,	O	X	X				
	Discuss different behaviours and attitudes	O	X					X
Preflight Briefing	Share information from information	O	X			X		X
	Identify threats and mitigation actions	O			X		X	X
Check-In	Prioritise safety vs. service	O	X		X	X		
	Anticipate future events	O		X				X
Reflection # 1	Identify potential risk for take-off	W	X			X		X
	Definition of problem areas and suggestions to improve and implementation	O/W	X	X			X	

PERFORMANCE INDICATORS

COMPETENCY	LEADERSHIP and TEAMWORK	
PERFORMANCE INDICATOR(S)	LEARNING OBJECTIVE – Displays effective Leadership and Teamwork	
Examples	Creates an atmosphere of open communication	✓
	Encourages team participation and cooperation	✓
	Admit mistakes and takes responsibilities	✗
	Carries out instructions when directed	✓
	Do not communicate relevant concerns and/or Intentions	✗
	Accepts feedback constructively	✓
	Demonstrates integrity and honesty	✓

OBSERVATIONS

- Staff behaviour
- Listening skills
- Do they disagree?
- How do they solve that?
- Is there a “leader”?
- Is someone very passive?
- How do they receive feedback?
- How do they give feedback?
- Do they follow Procedures?
- Non-verbal Communication
- Can they foresee the consequences?
- Does everyone give inputs?
- How do they reach a solution?
- Is someone dominant / controlling?



ASSESSMENT – General Rating Scale

LEVEL 1 UNSATISFACTORY	LEVEL 2 SATISFACTORY	LEVEL 3 GOOD	LEVEL 4 VERY GOOD	LEVEL 5 EXCELLENT
The student's performance was ineffective or inadequate, and had a neutral or negative effect on others or on the outcome of the exercise	The student's performance was satisfactory, which had a slightly positive effect on others or on the outcome of the exercise	The student's performance was effective and had a good effect on others and significantly contributed to the overall outcome of the exercise	The student's performance was very effective and had a very good effect on others and significantly enhanced the overall outcome of the exercise	The student's performance was exemplary and had an excellent effect on others and an outstanding effect on overall outcome of the exercise
Showed none or few relevant Performance Indicators (PI)	Showed some* of the relevant Performance Indicators (PI) * min 35%	Showed most of the relevant Performance Indicators (PI) to a good standard	Showed most or all of the relevant Performance Indicators (PI) to a very good standard	Showed all of the relevant Performance Indicators (PI) to an excellent standard

ASSESSMENTS in Practice

- It is behaviours that are observable and not the actual skills!
- Instructor knowledge of the NOTECHs Observable Behavioural markers is essential!
- Definition of effective Human factor behaviour is visible to the crew
 - Helps staff to compare own performance
- You ***MUST*** be ***OBJECTIVE*** in your assessment



OBJECTIVE versus SUBJECTIVE



OBJECTIVE	SUBJECTIVE
OBJECTIVE information is FACTUAL information based on OBSERVATIONS and MEASUREMENTS	SUBJECTIVE information is anything that is based on PERSONAL OPINIONS, JUDGMENT, FEELINGS, or POINTS of VIEW
VERIFIED with EVIDENCE	CANNOT be PROVED by EVIDENCE
UN-BIASED	BIASED
DOES NOT CHANGE	CHANGES depending on different PEOPLE

LIMITATION of Assessment

- Not every aspect of performance and behaviour can be captured:
- Not possible to Assess everything all the time
- Limited occurrence of some behaviours
 - i.e., Conflict resolution
- Limitation of human observers
 - Distractions
 - Overload
 - Large groups
 - Lack of knowledge of NOTECHS and Performance Indicators
 - Own perception of Level of Performance
 - Assessor Standardization



“ACTIVE LEARNING”



WHO WAS THIS GUY?

Søren Seindal Agner, CEO – AEROTEAM Training Solutions®

- ✈️ Tour Guide, Cabin Crew, Operations
- ✈️ Pilot
 - ✈️ Danish Air Transport (Short 7)
 - ✈️ Scandinavian Airlines (MD 80)
- ✈️ Ground Instructor – ATPL
- ✈️ CRM and Human Factors Trainer / Examiner
- ✈️ Multi Crew Course Instructor (MCCI)
- ✈️ Training Manager EASA Part 147
- ✈️ Member of The Danish Flight Safety Council since 2010
 - ✈️ Position – Human Factors in Civil Aviation
- ✈️ INVENTOR of the MAYDAY Training Concept



*"Education is NOT the learning of facts,
It is the training of the mind to THINK!"*

Albert Einstein

PLEASE REMEMBER



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THANK YOU FOR YOUR ATTENTION