



Session 9

Transitioning from Traditional to Competency-based Assessments



Overview

- The shift to competency-based assessments
- Establishing rating scales
- Defining success criteria
- Role of Instructors & Evaluators
- Assessing individual vs. crew
- Q&A
- Practical exercise #2



Shift to Competency-based Assessments

- Live performance is **not** always right or wrong
- Notion of errors and error management
 - perfect performance vs. errors and self-correction
- Excellence vs. perfection...
 - from black & white to a lot of grey



Shift to Competency-based Assessments

- CBTA is **not** black and white
- Some items can be strictly pass/fail
 - right or wrong
 - e.g. knowledge-based
- Assessment of competencies
 - not necessarily right or wrong
 - there's a range
 - competent/not yet competent



Navigating the Shades of Grey

- Operator must follow 2 steps
 1. Determine rating scale
 2. Determine success criteria
- Both are specific to each operator



How to Establish a Rating Scale

- Need to identify rating methodology
 - to grade performance against criteria & task list standards
- What to consider?
 - criticality of actions/inactions
 - including errors
 - impact on safety of flight
 - final outcome of the event





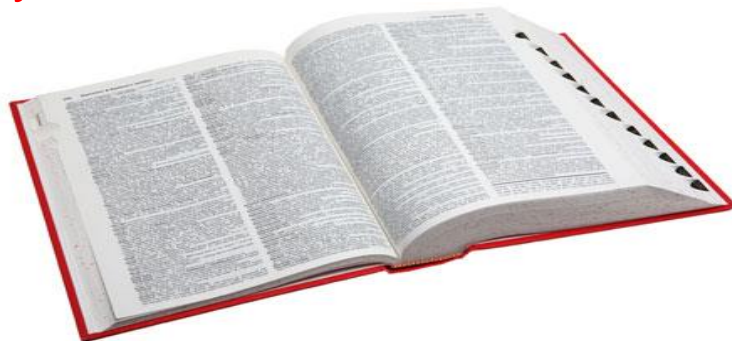
Example of Rating Scale

GRADE		CRITERIA
1	Unsatisfactory	Major deviations from the prescribed qualification standards occur that are not recognized or corrected. Individual or crew performance could result in hull loss or loss of life. CRM/DRM skills are not effective.
2	Below Standard	Deviations from the prescribed qualification standards occur that are not recognized or corrected. Individual or crew performance is safe but would be unsatisfactory if diminished by any amount. CRM/DRM skills are not completely effective.
3	Standard with Debrief	Deviations occur from the prescribed qualification standards that are recognized and most corrected. Individual or crew performance meets expectations. CRM/DRM skills are effective.
4	Standard	Minor deviations occur from the prescribed qualification standards that are recognized and corrected in a timely manner. Individual or crew performance meets expectations. CRM/DRM skills are clearly effective.
5	Excellent	Performance remains well within the prescribed qualification standards. Individual or crew performance, management and CRM/DRM skills are exemplary.

Source: FAA AC 120-54a

Defining Terminology

- 4. Satisfactory =
 - **Minor deviations** occur from the prescribed qualification standards that are recognized and corrected in **a timely manner**. Individual or crew performance **meets expectations**. CRM/DRM skills are **clearly effective**.



Developing Clear Guidance



- Operator must define:
 - what is considered a “minor deviation”?
 - what is a “timely manner”?
 - how to observe that skills are “clearly effective”?
- Clear guidance needs to be developed for evaluators to use
 - to provide consistency of assessments
- Specific **evidence** (observable behaviors) on trainees’ performance
 - parameters within definitions
 - specific to a scenario

How to Establish Success Criteria

- Along with rating scale, establish specific success criteria
 - for scenarios conducted during training
- These should be based on
 - performance criteria, specific to competency being assessed
 - tasks, which are part of objectives of exercise
- Evidence used to assess competencies and tasks
 - may be gathered in separate forms or combined under single criterion
- Doc 10002 contains examples of success criteria



The Role of Instructors/Evaluators

- Competency-based training requires an increased number of instructors/evaluators
- Several aspects are required to execute scenario
 - triggers
 - distracters
 - training aids
 - etc.
- In scenario-based training
 - some may play specific role (e.g. “Capt.”)
 - others may be in cabin assessing trainees



Guidance to Instructors/Evaluators

- CBTA requires training for instructors/evaluators
- Instructions on how to facilitate scenario
- How to assess competencies & tasks
- To obtain consistency (calibration)



Instructor/Evaluator Training

- Training should include
 - conducting briefings
 - executing scenarios
 - conducting assessments
 - conducting debriefings



Scenario Briefing

- Set-up the scenario
 - pre-flight
 - setting the scene for the flight
- Allow trainees to familiarize themselves with training environment
 - e.g. cabin simulator



Conducting Assessments

- Points to consider
 - How many instructors/evaluators assess scenario?
 - tied to number of trainees active in scenario
 - What can they see?
 - is their view obstructed in CTD?
 - Limiting what each instructor/evaluator can assess
 - e.g. number of competencies per scenario
- Remember evaluator reliability



Assessing Individual vs. Crew

- When deciding to assess individual vs. crew as a whole
 - Consider impact of crew actions/inactions on safety of flight
 - did crew act incorrectly as unit?
 - was it a specific individual?
 - Differing levels of participation during scenario
 - from shy to over achiever...
- Guidance for instructors/evaluators should address issue
 - of individual versus team assessments
 - and criteria used for decision-making on matter



Scenario Debriefing

- Allows participants to recognize and understand own/crew errors
 - self-assessment opportunity
 - learn from experience
 - errors recognized without instructor/evaluator pointing them out
- Provides forum for correcting minor deviations
 - e.g. review the fire fighting technique if it was an issue
- Provides bigger picture to participants
 - in dynamic environment, trainees may not know what others were doing at certain times in scenario
 - trainees get missing pieces



Content of Debrief

- Summarize what occurred
- Discuss how crew performed
 - including from CRM perspective
 - address both positive and negative aspects
- Assessments in crew context vs. individuals
 - level of participation by individual trainees
- What would trainees would have done differently
- Questions from trainees and discussion



Points to Remember

- Shift to competency-based assessments
 - Excellence vs. Perfection
 - Performance is not pass/fail
- Develop rating scales with clear definitions
 - Evaluating criticality of items
- The need to clearly define success criteria
- Role of Instructors/Evaluators
 - Including the importance of debriefing
- Assessing Individual vs. Crew
 - How to differentiate





Practical Exercise #2

Developing competency-based assessments

Context

- As part of the development of competency-based recurrent training, the training department at XYZ airlines has been tasked with developing guidance
 - To assess the training scenario you developed in Exercise 1
- Refer to
 - Appendix A of Exercise 1
 - Objectives in Table 01 – Scenario Summary Table

Group Activity

- A facilitator will be appointed and will coordinate the discussion
 - Summary of discussion will be written on flip charts
- A member of the group will brief on their findings in a plenary session

Your Task

- Based on rating scale presented in Appendix A-2
 - Select one sub-task (or a few) featured in your scenario (linked to your objectives)
 - Develop criteria, specific to that sub-task(s) for each of grades in scale
 - include evidence that evaluator should identify (actions)
 - define terms in rating scale (e.g. what constitutes a “major deviation” in your scenario?)
 - Complete log in Table 05

Rating Scale

GRADE		CRITERIA
1	Unsatisfactory	Major deviations from the prescribed qualification standards occur that are not recognized or corrected. Individual or crew performance could result in hull loss or loss of life. CRM/DRM skills are not effective.
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4	Standard	Minor deviations occur from the prescribed qualification standards that are recognized and corrected in a timely manner. Individual or crew performance meets expectations. CRM/DRM skills are clearly effective.
5	Excellent	Performance remains well within the prescribed qualification standards. Individual or crew performance, management and CRM/DRM skills are exemplary.

Source: FAA AC 120-54a

Your Task (Cont'd)

- Based on rating scale presented in Appendix A-2 and cabin crew competencies presented in Appendix B-2
 - Select one competency previously identified in your scenario
 - Develop criteria (specific to that competency) for each of grades in scale
 - include evidence that evaluator should identify (OBs)
 - define terms in rating scale (e.g. what constitutes an “exemplary” in your scenario?)
 - Complete attached log Table 06



CABIN CREW TASKS DURING ABNORMAL AND EMERGENCY SITUATIONS

Phase of flight: 1. Applicable to any phase of flight

The tasks described below relate to abnormal or emergency situations which may occur during any phase of flight

Task	Sub-task	I/C Duty	Reference
1.1 Apply firefighting procedure	1.1.1 Detect and eliminate fire hazards		CCOM
	1.1.2 Locate source of fire		
	1.1.3 Identify the type of fire		
	1.1.4 Apply communication procedures		
	1.1.5 Use appropriate firefighting equipment and protective equipment, as required		
	1.1.6 Fight fire		
	1.1.7 Manage passengers and cabin, as required		
	1.1.8 Apply post-firefighting procedure		
	1.1.9 Complete the applicable documentation	X	

Table 05 – Scenario Rating Scale (Sub-task)

Sub-task(s):		
GRADE		CRITERIA
1	Unsatisfactory	
2	Below Standard	
3	Standard with Debrief	
4	Standard	
5	Excellent	

Appendix B-2

ICAO competency	Description	Observable behaviour (OB)
Communication	Communicates through appropriate means in the operational environment, in both normal, abnormal and emergency situations	OB 2.1 Determines that the recipient is ready and able to receive information OB 2.2 Selects appropriately what, when, how and with whom to communicate OB 2.3 Conveys messages clearly, concisely using designated common language (e.g. multilingual flight/cabin crew) OB 2.4 Confirms that the recipient demonstrates understanding of important information OB 2.5 Listens actively and demonstrates understanding when receiving information ...

Table 06 – Scenario Rating Scale (Competencies)

Competency:		
GRADE		CRITERIA
1	Unsatisfactory	
2	Below Standard	
3	Standard with Debrief	
4	Standard	
5	Excellent	