CBTA
Competency Based Training and Assessment

Operational Control is the exercise:
- to stay ahead of the wave
- and to keep an adequate decision making speed
- with changing risk parameter and on basis of incomplete information

CBTA shall prepare operational control staff for fast and adequate problem solving and decision m

gettyimages
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The AOC-arguments during training need analysis

- Integration of all safety, operational and cost elements in one decision making process
- Short-term OCC decision-making will become more complex, the decision making speed becomes more important
- The flight planning and flight monitoring processes is integrated in a continuous risk management process
- More data requires higher staff competence data selection relevant for decisions
- The control of data flow becomes more crucial
- Tools for what-if scenarios and decision support will change workflows
- Adjustment of decision-making extent may be required
- Interactions between Airports, OCC and ATC (CDM) will change the rules of decision making
- There is no standard allocation of tasks to job titles in operational control
- Job titles and tasks in operational control are defined by the operator
- Operator will still describe specific role related competency targets
- Any standard intermediate qualification level in operational control would support the development of operator qualification programs
- Such an intermediate qualification standard could be provided internally or by more than one external supplier with potential cost advantages

ICAO: new qualification definitions and standards on basis of competency targets and realistic tasks for:

- Flight Operations Officer / Flight Dispatcher
- Air Traffic Safety Electronics Personnel
- Aircraft Maintenance Personnel
- Air Traffic Controller
- Pilot

Situation Awareness
Problem Solving and Decision Making

Planning ⟶ Control ⟶ Analysis

Improvement of Processes and Dataflow

Control → Analysis → Planning → (Control)
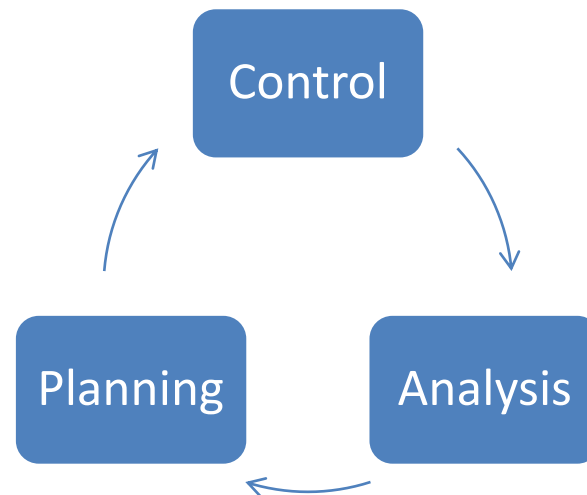
**According to ICAO
competence is a combination of „KSA"**

- Knowledge

- Skills

- Attitude

Competency Based Training and Assessment CBTA
is nothing new… it's a simple and clear concept

Competency Based Training is not a new training method, it is the result of an adequate development process

Competency Based Training and Assessment CBTA defines minimum standards and practices, described in ICAO Doc 10106 chapter 1

- The context of FOO CBTA to other ICAO standards

- Reasons why CBTA covers actual and future requirements for operational control qualifications

- How to structure and develop a CBTA program. Description of workflows

Competency Based Training is not a new training method, it is the result of an adequate development process

ICAO Doc 10106 chapter 2

- Describes the different roles and typical tasks in the context of operational control duties
- Describes the generic Flight Operatins Officer competency level
- Distinguishes between a FOO basic/license level and an advanced operator and role specific level of competence

Competency Based Training is not a new training method, it is the result of an adequate development process

ICAO Doc 10106 chapter 3

Describes a typical workflow of a training need analysis

ICAO Doc 10106 chapter 4

Describes the development of a local or national competency model and a related training and assessment plan

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ICAO Doc 10106 chapter 5

Describes a typical workflow for the development of training and assessment methods, standards, resources and materials

ICAO Doc 10106 chapter 6

Describes a typical workflow for supervision, inspection and support of training and assessment

Competency Based Training is not a new training method, it is the result of an adequate development process

ICAO Doc 10106 chapter 7

Describes the training and assessment evaluation and improvement process

ICAO Doc 10106 Appendix A

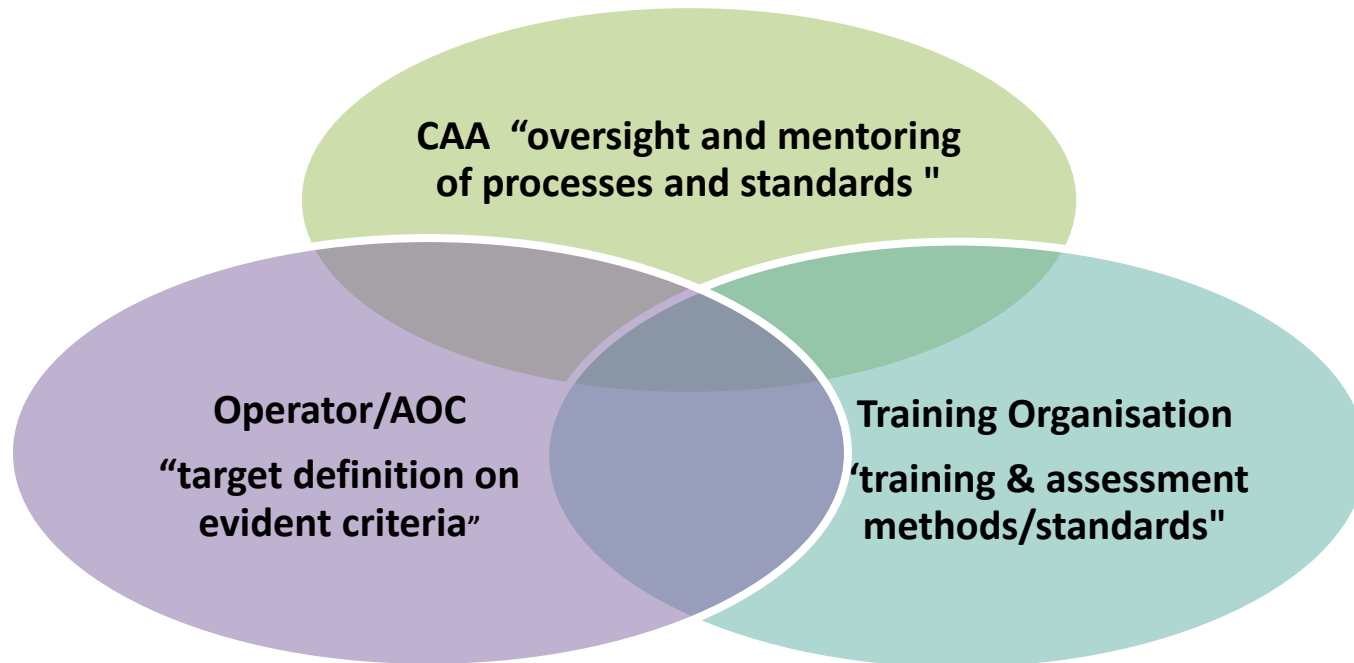Prerequisite Learning Objectives, Training Phase 1

ICAO Doc 10106 Appendix B

Flight Operations Officer Tasks, Training Phase 2

The risks in education and training

- If the wrong stakeholder defines competency targets
- Knowledge centered training is quite simple … skills and attitude centered training is not
- Multiple choice question based assessments are easy for the assessor but inadequate for competence assessments
- Control about the training and assessment needs a strong oversight, mentoring and standardization of processes

The stakeholder in CBTA

CAA "oversight and mentoring of processes and standards "

Operator/AOC

"target definition on evident criteria"

Training Organisation

'training & assessment methods/standards"

Competency and training need analysis

1. What are realistic tasks for the target group?

2. What are the human ressource related risks during the execution of tasks?

3. Which task related competencies shall be demonstrated during and after a training?

4. Which tasks and competencies are important in a near future?

**Competency targets for FOO,
ICAO Doc 9868 Ed.3, Nov 2020, the headlines**

- Application of Procedures and Regulations

- Technical Expertise

- Process Improvement

- Communication

- Situation Awareness

- Workload Management

- Problem Solving and Decision Making

- Leadership and Teamwork

Task examples, see 10106 Appendix B for details

1. Assessment of airport suitability: weather, NAV-aids, procedures, limitations
2. Assessment of operational risks from CAMO, MRO, Crew resources
3. Post flight analysis of events and incidents
4. Identification of adequate KPI's and the method of risk evaluation
5. Description of improvements for processes, procedures, tools, competence and data flow
6. Improvement of situation awareness, problem solving and decision making processes
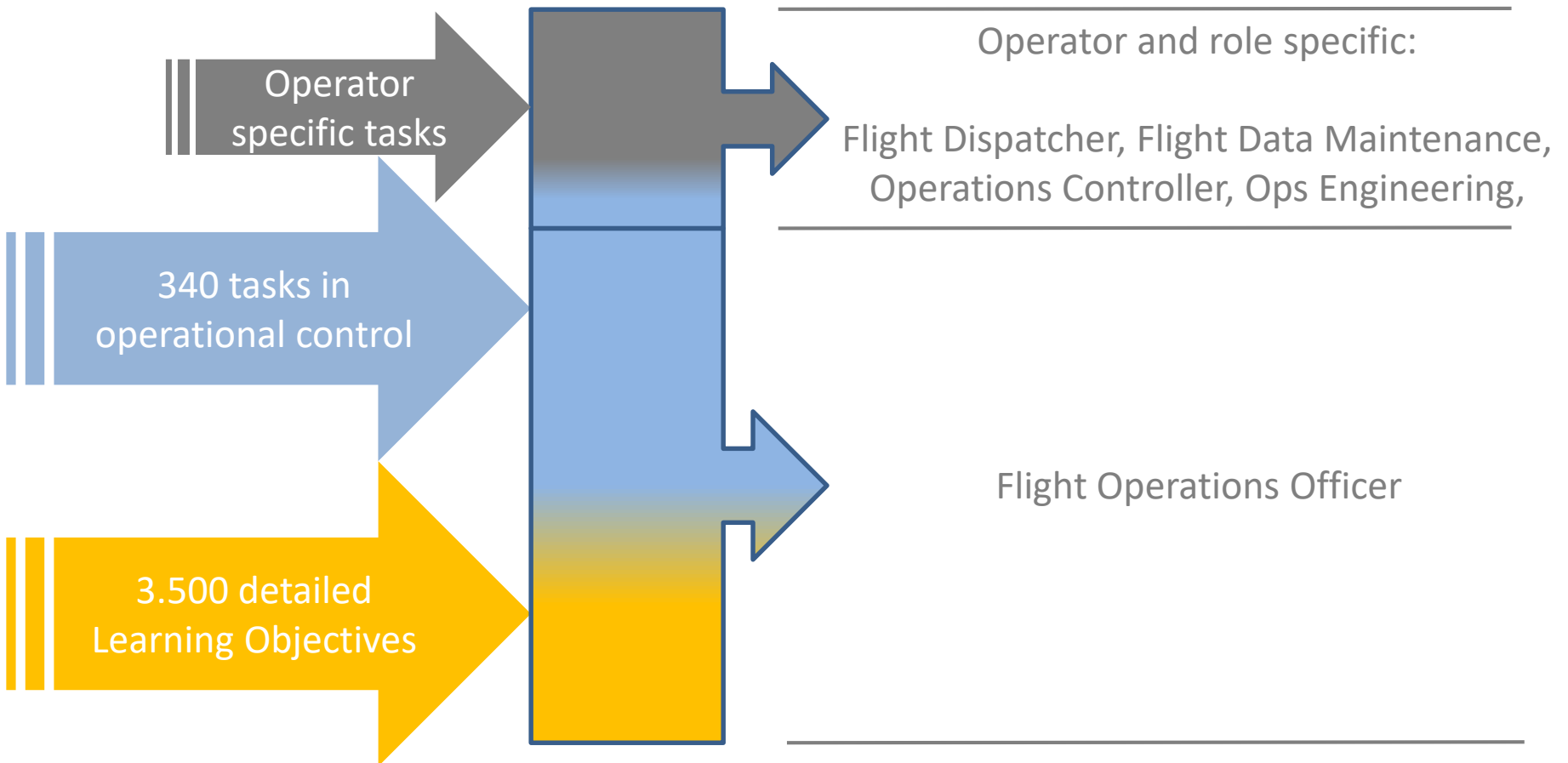
Assessment requirements

Assessment shall

1. base on realistic exercises based on realistic tasks

2. include Knowledge <u>and</u> Skills <u>and</u> Attitude in one process

3. ask for consequences and context of a situation

4. process related and evident

Training methods and standards development, examples

1. Description of KSA-prerequisites (LO's = Learning Objectives, abstract and detailed) to prepare the exercise of tasks. See 10106 Appendix A for details
2. Development of training methods and exercises on basis of LO's and realistic tasks
3. Combination of knowledge, skills and attitude requirements for realistic assessments
4. Definition and control of instructor, material and documentation standards in a flexible CBTA system

CBTA level in Operational Control Training

Operator specific tasks

340 tasks in operational control

3.500 detailed Learning Objectives

Operator and role specific:

Flight Dispatcher, Flight Data Maintenance, Operations Controller, Ops Engineering,

Flight Operations Officer

Qualification level

1. The aircraft operator is responsible for the definition of both, entry (FOO) and exit level (Flight Dispatcher, Operations Controller, Ops Engineer) of operator and role specific training
2. The Flight Operation Officer qualification covers general and intermediate level competencies, it simplifies and standardize the transfer to operator and role specific training
3. Operator and role specific training qualifies for the execution of operational control tasks, the FOO-level alone does not

Competence development and control

FOO-training competence prerequisites should be checked, i.e

- basic math and physics
- ability to abstract and logical reasoning
- problem solving and decision making
- language proficiency
- communication, human factors

Training progress becomes unstable and inefficient without defined and checked entry competencies

Competence development and control

Strong standards in competency target oriented training and assessment allows:
- schedules influenced by competency-results and not so much by standard durations
- shortcuts for training but not for assessments
- an easy integration of pre-qualified students with training shortcuts

Thanks for your attention

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