

Competency-based training and assessment (CBTA) principles (source IATA)

The goal of competency-based training and assessment is to produce a competent workforce by providing focussed training. It does so by identifying key competencies and the level of proficiency to be achieved, determining the most effective way of achieving them and establishing valid and reliable assessment tools to evaluate the achievement.

Principles:

- 1) Relevant competencies are clearly defined for a particular role within an aviation discipline
- 2) Competencies can be trained for, observed and assessed consistently
- 3) Common understanding of the competency requirements.
- 4) Clear performance criteria are established by the training provider for assessing competence.
- 5) Evidence of competent performance is valid and reliable.
- 6) Link between competencies and training, required performance and assessment
- 7) Assessment based on multiple observations across multiple contexts.
- 8) Demonstration of an integrated performance of all the required competencies

Assessment / testing / Exam

The most important properties of each assessment are validity and reliability. An assessment is reliable when it scores the same with different individuals and with the same result when administered at different times to equally skilled learners. A valid assessment must therefore contain items that faithfully reflect the performance, conditions and standards described in the course objectives - and include all knowledge, skills and attitude as described in the course objectives, but certainly no more than that.

Test design

For a given objective, trainees will undergo training and a test at the end of the training. During the test, the trainee will be required to achieve the objective. Terminal objectives are outlined in the competency framework, and the course instructor will provide the associated learning objective and enabling Objectives.

Test format

- Ideally, tests would reproduce the conditions of job performance.
- Be balanced : the distribution of items reflects the relative importance of the objectives being covered; it must be valid and reliable.
- Efficient: Delivery of the test is not too time-consuming; it should allow for quick but efficient scoring and the processing of results; and
- Include a scoring key and a framework answer (if appropriate) so that a minimum amount of interpretation is needed when scoring the trainee's responses.

Two fundamental types of test used for Competency Based Training (source ICAO)

1. Mastery Test which determines whether a trainee has accomplished the training objective at the end of a module (or the course). Designing of the Mastery Test needs to be done before the design of the training course.
2. Progress Test which determines whether a trainee has achieved the performance required in the intermediate objectives that lead to the end of the module objective. These tests provide feedback about a trainee's progress and allow corrective actions to be taken. These tests will be developed during the development of the course.