AC FCL-14(1)
22 January 2026

Civil Aviation Authority of Singapore

Advisory Circular

Competency Based Training and Assessment (CBTA)

GENERAL

Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 11 of the Air Navigation Act 1966 (ANA), to demonstrate compliance with a statutory requirement. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

PURPOSE

This AC provides guidance in developing and implementing a training programme that utilises the Competency-Based Training and Assessment (CBTA) approach.

APPLICABILITY

This AC is applicable to an Aviation Training Organisation (ATO) intending to or conducting training that utilises the CBTA approach.

RELATED REGULATIONS

This AC relates specifically to Appendix K of the Singapore Air Safety Publication Part 10 – Approval of an Aviation Training Organisation (SASP 10).

CANCELLATION

This AC supersedes AC-FCL-14 dated 6 January 2026. This revision includes editorial changes for clarity.

EFFECTIVE DATE

This AC is effective from 22 January 2026.

OTHER REFERENCES

- ICAO Annex 1
- ICAO Procedures for Air Navigation Services – Training (PANS-TRG) (Doc 9868)
- IATA Competency Assessment and Evaluation for Pilots, Instructors and Evaluators

1 DEVELOPING AND IMPLEMENTING A CBTA PROGRAMME

1.1 According to Appendix K of SASP 10, the ATO has to develop a CBTA programme based on an Instructional Systems Design that integrates Threats & Error Management, and uses a competency model for training and assessment of the trainees. Appendix K of SASP 10 also requires that the instructors be trained and competent in delivering the CBTA programme.

1.2 The development of the CBTA programme should be carried out by a course developer who has full understanding of the principles of a CBTA approach to training.

1.3 The Head of Training (HT) should also have full understanding of the principles of a CBTA approach to training in order to discharge his/her responsibility in the implementation and oversight of the CBTA programme.

2 INSTRUCTIONAL SYSTEMS DESIGN (ISD)

2.1 An ATO may propose an ISD process that meets the SASP 10 requirements, e.g. the ADDIE (Analyse, Design, Develop, Implement & Evaluate) model. This AC provides the workflows of the ADDIE model to guide the development of the CBTA programme as summarised in Table 1 as follows:

ANALYSE	DESIGN	DEVELOP	IMPLEMENT	EVALUATE
Workflow 1 - Analyse training needs	Workflow 2A - Design the competency model Workflow 2B - Design the Training Plan and the Assessment Plan	Workflow 3 - Develop the training and assessment materials	Workflow 4 - Conduct the course in accordance with the training and assessment plans	Workflow 5 - Evaluate the course including the training and assessment plans

Figure 1 – Competency-based training and assessment workflows

2.2 ANALYSE

2.2.1 Understanding the job or role for which the training is to be developed is crucial for an ATO. It is important to recognise that a job task analysis in a traditional sense may not fit completely in a CBTA programme. The CBTA programme emphasises the development of competencies that underpin performance across various tasks, with a particular focus on managing operational complexities, such as threat management. By applying Workflow 1 as described in Figure 2 below, the necessary training specifications would be determined.

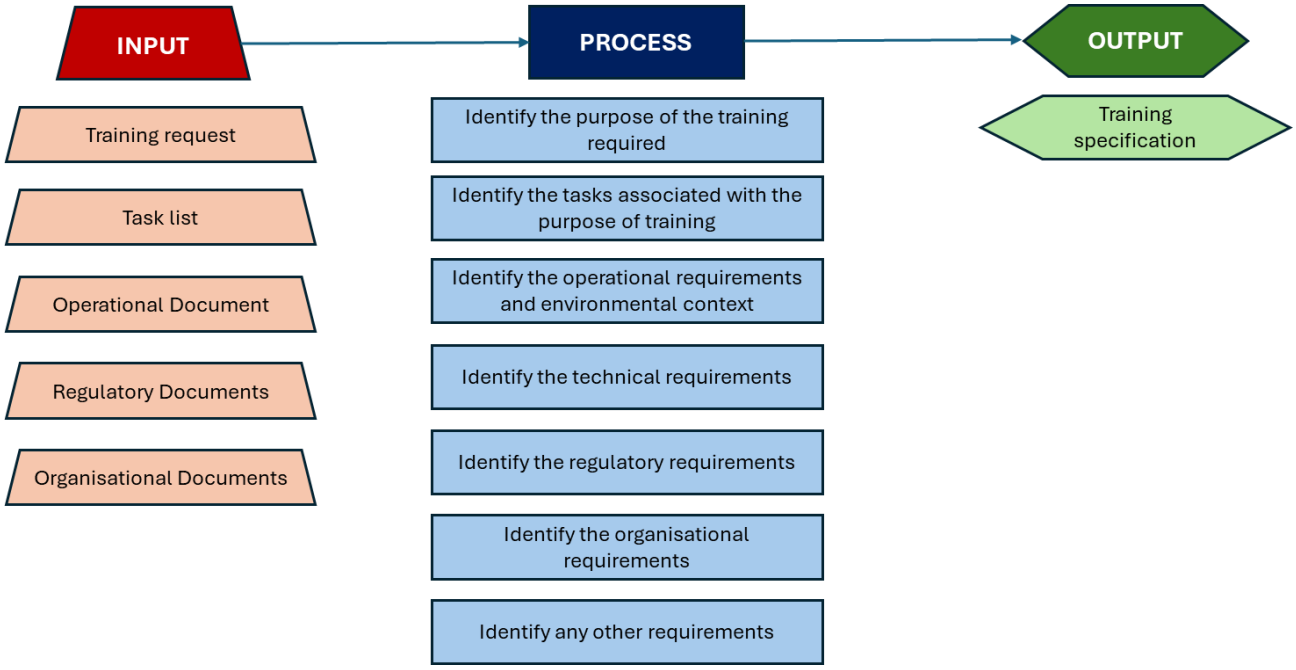

Figure 2 - Workflow 1 Analyse training needs

2.2.2 The purpose of the training should be aligned with the training request and specify what the trainee should achieve on successful completion of training.

2.2.3 The task list may be extracted from an existing job and task analysis or may be taken from the operations manual that has listed the various roles and responsibilities in the operations environment. ICAO Doc 9868 contains a list of pilot tasks for reference.

2.2.4 The training specification is the output from Workflow 1. With the training specification, the Course Developer can proceed to the next phase to design the CBTA programme.

2.3 DESIGN

2.3.1 The design of the CBTA programme will be based on:

(a) the training specifications determined through Workflow 1 as described in Figure 2;

(b) the pilot and instructor competencies as stipulated in Appendix K of the SASP 10; and

(c) the integration of Threat and Error Management (TEM).

2.3.2 The Design phase comprises of two Workflows – Workflow 2A and Workflow 2B. The purpose of Workflow 2A is for the ATO to develop an applicable Competency Model(s) as necessary from the pilot and instructor competencies in Appendix K of the SASP 10. Workflow 2B focuses on the development of the Training Plan and the Assessment Plan.

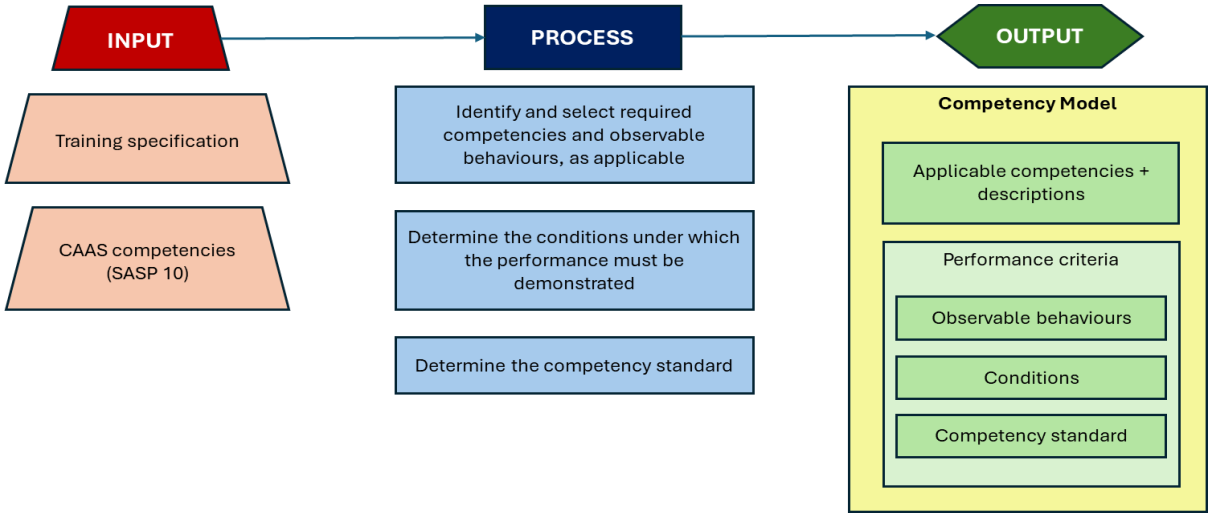

Figure 3 - Workflow 2A Design the competency model

Competency Model

2.3.3 The competency model as outlined in Figure 4 comprises of the following:

(a) Pilot and Instructor Competencies
The competencies stipulated in Appendix K of the SASP 10 generally form the basis for training and assessment. However, depending on the type of training, the ATO should identify the competencies that are applicable to the CBTA programme. For example, the competency "Leadership and Teamwork" may not be applicable to single-pilot training. The ATO may identify additional pilot or instructor competencies (beyond those stipulated in the SASP 10) where it may be considered beneficial to the CBTA programme. Paragraph 3 of this AC provides more specific guidance on how the training of CBTA instructors may be incorporated into the CBTA programme.

(b) Observable Behaviours (OBs)
OBs establish how the competencies would be assessed objectively. A comprehensive list of pilot OBs reside in **Appendix 1** of this AC. The instructor OBs reside in **Appendix 2** of this AC. The ATO should train the pilots to demonstrate the OBs applicable to the competencies that were identified earlier.

(c) Conditions under which the competencies are to be demonstrated
The conditions that should be considered for the demonstration of competency standard are those relating to:

(i) the nature and complexity of the operation and environment (e.g. weather, system failures etc.);

(ii) tools and systems or equipment (e.g. aircraft or FSTD); and

(iii) the level of support or assistance a trainee can expect from the instructor or assessor. This varies as the trainee progresses with the training.

(d) Competency Standard

A competency standard is a defined level of performance that indicates the demonstrated competency is acceptable. The ATO may define interim level of performance that commensurate with the progress of the training. At the end of the training, the trainee will need to perform independently without any assistance to meet the competency standards as stipulated in the relevant SASPs.

Competency Model			
Competency	*Performance criteria*		
	Observable behaviour (OB)	*Conditions*	*Competency standard*
Competency 1 + Description	OB 1.1	Relating to: a) operational and environmental contexts, b) tools, systems and/or equipment, and c) assessment context	Defined level of performance
	OB 1.2		
	OB 1.3		
	OB 1.n		
Competency 2 + Description	OB 2.1		Defined level of performance
	OB 2.2		
	OB 2.3		
	OB 2.n		
Competency n + Description	OB n.1		Defined level of performance

Figure 4 - The Competency Model

2.3.4 Having established the competency model, together with the training specification and task analysis, the ATO should design the Training and Assessment Plans as laid out in Workflow 2B as described in Figure 5 below.

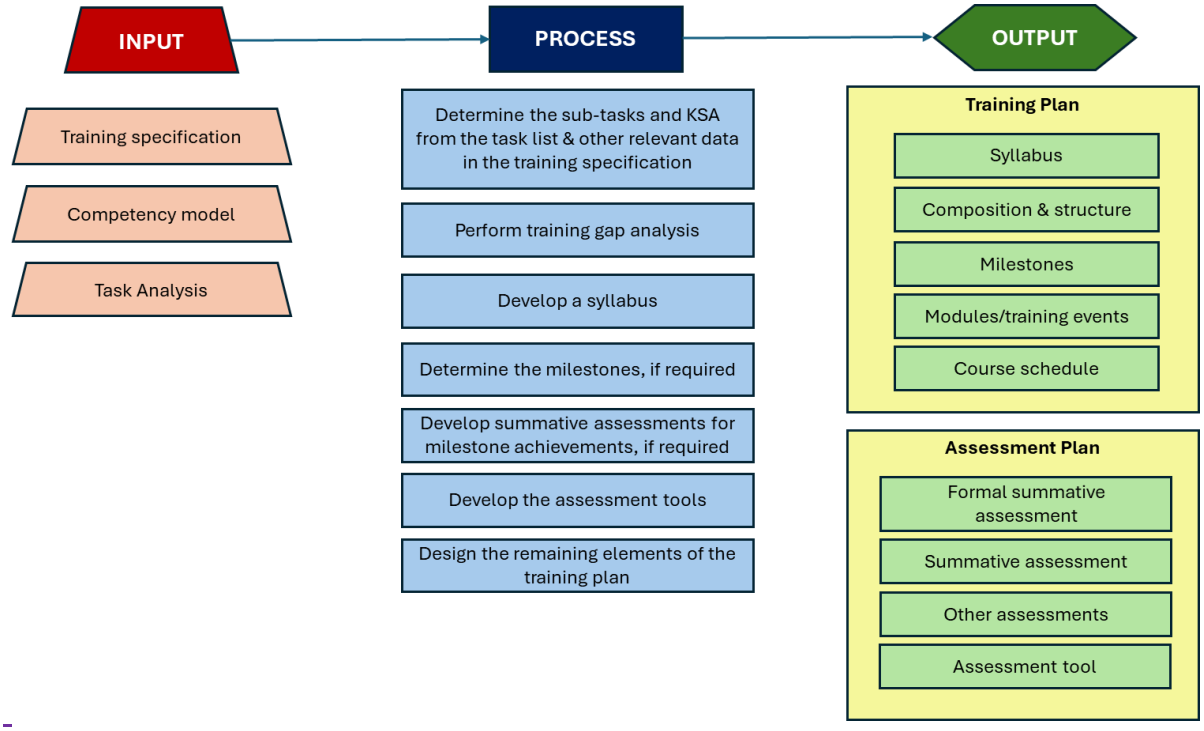

Figure 5 - Workflow 2B Design the Training Plan and the Assessment Plan

Training Plan

2.3.5 The Training Plan should comprise of the following:

(a) Syllabus

The syllabus is the list of training objectives to be covered by the course. The training objectives are derived from the tasks, its associated knowledge, skills and attitudes (KSA), and the training gap analysis. To facilitate the process of assigning training objectives to the various milestones, modules and training events, it is useful to structure a syllabus into logical groups of subjects.

The CBTA programme needs to integrate TEM and surprise elements, with an increase of complexity towards the end of the course. The purpose is to develop the identified competencies for the pilot/crew to safely manage threats and errors, and to avoid undesired aircraft states.

(b) Composition and structure of the course

This is a high-level description of what will be trained (composition) and how the milestones, modules and training events relate to each other (structure).

(c) Milestones

(i) Milestones track a trainee's progression and are reached when both training and assessment are completed for each unit of learning. Training objectives from the syllabus are assigned to each milestone.

(ii) Milestones are sequential; therefore, a trainee would need to successfully complete the training and assessment for each milestone before proceeding to the next.

(d) Modules/Training Events

Depending on the number, type and complexity of the training objectives, it may be helpful to further subdivide the training into modules (within an entire course or within all or some milestones). Training events may be developed to support the modules. Training events may be in the form of classroom-based lessons, simulator exercises, web-based training exercises, case studies, etc. Training events contain the following information:

(i) the objectives that are taught;
(ii) the time allocation to teach the objective(s);
(iii) the method(s) (e.g. (case studies, role-playing, briefing, self-study etc.) to be used;
(iv) which media are used (e.g. simulators, visual aids or textbook);
(v) the learning rate (i.e. self-paced, time-restricted or real-time); and
(vi) whether the training is delivered to an individual or a group.

Training events should be organised in a logical sequence that progresses from simple to complex.

(e) Course schedule

The course schedule indicates how the training events and assessments fit together into the total duration of the course.

Assessment Plan

2.3.6 The purpose of the assessment plan is to detail how competency is determined. The assessment plan should have these components:

(a) assessment at each milestone;

(b) type of assessment(s) (e.g. practical assessments, examinations, oral assessments) at each milestone;

(c) level of performance to be achieved at each milestone;

(d) tools to be used to collect evidence during a practical assessment;

(e) passing mark for examinations or oral assessments;

(f) the minimum number of formative assessments prior to starting summative assessments; and

(g) number of sessions before introducing the interim and final assessment.

2.3.7 The assessment should take into account the following principles:

(a) *Clear performance criteria are used to assess competence.* The competency model establishes these performance criteria;

(b) *An integrated performance of the competencies is observed.* The trainee undergoing assessment must demonstrate all competencies and their seamless interaction with each other;

(c) *Multiple observations are undertaken* to determine whether the trainee has achieved the required level of performance;

(d) *Assessments are valid* when it has covered the applicable competencies defined in the competency model, and there is sufficient evidence to determine the trainee has achieved the competency standards. The trainee should not be assessed against activities that are outside the scope of the competency model; and

(e) *Assessments are reliable*. All assessors should reach the same conclusion when performing an assessment. All assessors should be trained and monitored to achieve and maintain an acceptable level of inter-rater reliability.

Practical Assessment

2.3.8 The primary method for assessing competency is through the conduct of practical assessments, typically in a simulated or operational environment. The ATO may supplement the practical assessments with other forms of evaluation if deemed necessary. Applicable regulatory requirements for supplemental evaluation must be complied with.

2.3.9 There are two types of practical assessment:

(a) *Formative assessments* are a part of the learning process. Instructors provide feedback to the trainees on how they are progressing towards the competency

standard. This type of assessment enables the trainees to progressively build on competencies already acquired and aid learning by identifying gaps as learning opportunities. If trainees receive feedback or are assessed only at the end of the training, there is no opportunity to use that information to improve their performance during training. The frequency and number of formative assessments may vary depending on the duration of the training and the syllabus structure and its assessment plan. Formative assessments serve to: (i) motivate trainees; (ii) identify strengths and weakness; and (iii) promote learning.

(b) *Summative assessments* provide a method to determine the trainee has achieved the competency standards. Summative assessments are carried out at defined points, and using a refined grading system with a scale of judgements to improve feedback for the trainee and instructor. Necessary tools should be developed to collect evidence in a standardised, systematic and reliable manner in order to ensure inter-rater reliability.

2.3.10 An example of a refined grading system with a scale of judgements could be the following:

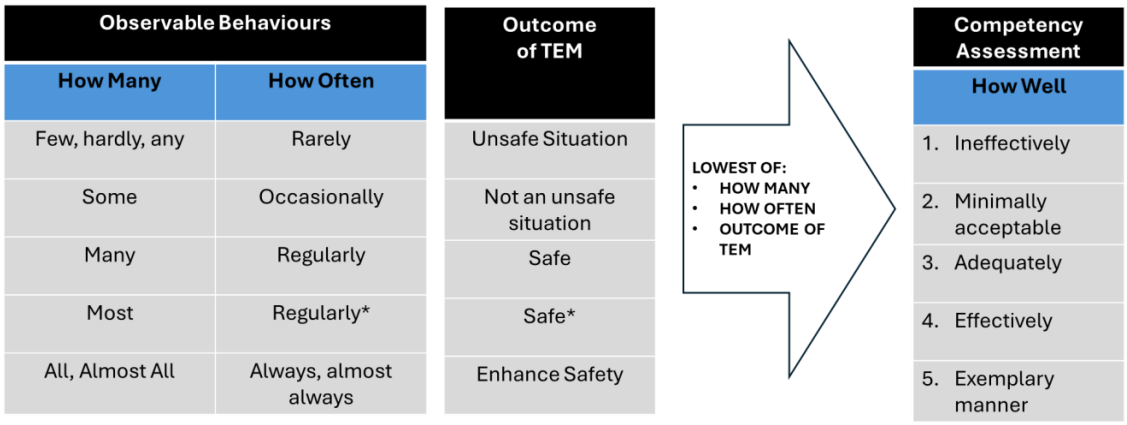

Figure 6 – Grading System

Further elaboration of the grading system can be found in **Appendix 3** of this AC.

2.3.11 The performance of a competency is based on the lowest of "How many" and "How often" of the Observable Behaviours (OB) and the Outcome of the TEM. An example is shown below whereby the trainee's performance is graded as indicated by the yellow boxes. The trainee obtained a "Grade 2" for his/her competency assessment.

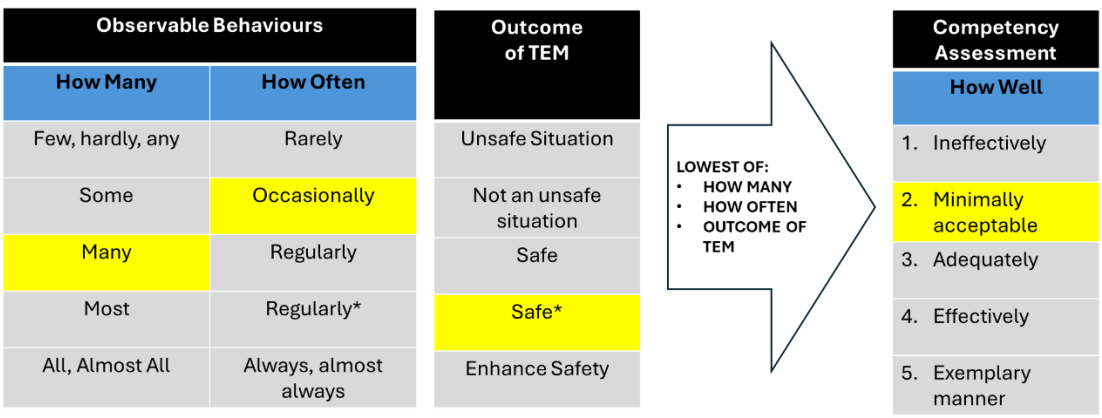

Figure 7 – Example of Grading a Trainee's Performance

2.4 DEVELOP

2.4.1 Having designed the competency model and the training and assessment plan, the next Workflow 3 (Figure 8) is to develop all the training and assessment materials.

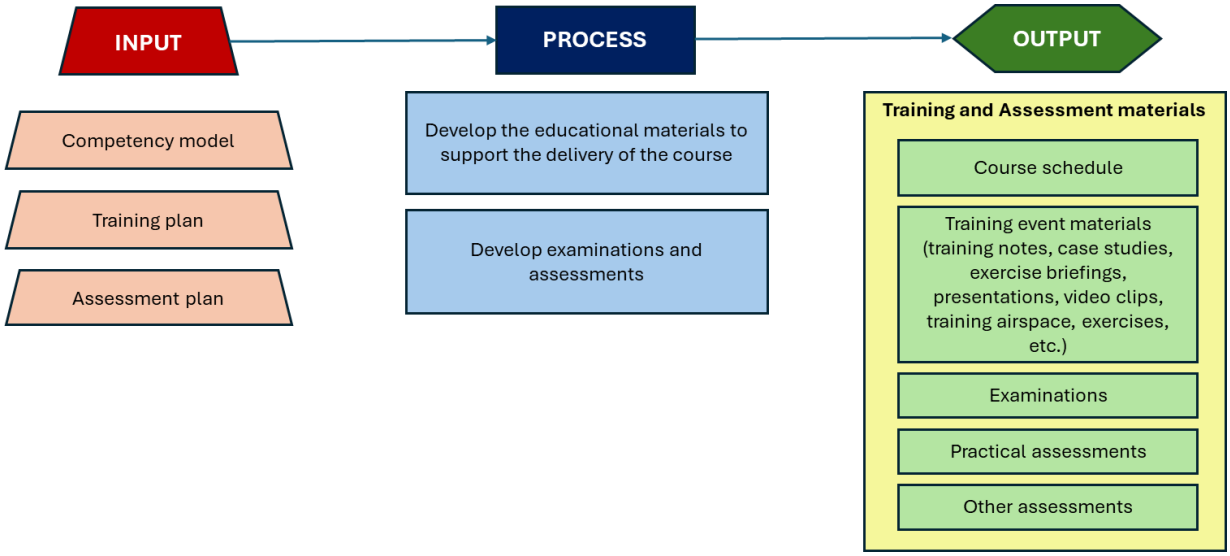

Figure 8 – Workflow 3 Develop the training and assessment materials

2.4.2 The training materials to be developed should include, but not limited to, course schedule, training notes, exercise briefings, practical exercises, case studies, presentations, video clips, and any other applicable training resources.

2.4.3 The assessment materials to be developed should include examinations, practical assessments and other assessments such as self-test quizzes. Particularly, for practical assessments, the following should be developed:

(a) *Evidence guide*. An evidence guide translates the performance criteria into practical examples of expected observations. It is used to eliminate different interpretations among instructors and ensures that valid and reliable evidence is gathered. It details competencies, their associated observable behaviours and the expected performance that should be observed.

(b) *Competency checklist*. A competency checklist details the competencies and performance criteria and is used to record achievements during each formative and summative assessment.

(c) *Competency assessment form*. The competency assessment form is used to summarise the results of all the assessments that have been undertaken by a trainee and then decide whether the trainee has achieved the competency standard. The competency assessment form should correlate with the assessment plan.

2.5 IMPLEMENT

2.5.1 Figure 9 summarises the outputs of Workflows 1 to 3 which are necessary to implement the CBTA course as shown in Figure 10.

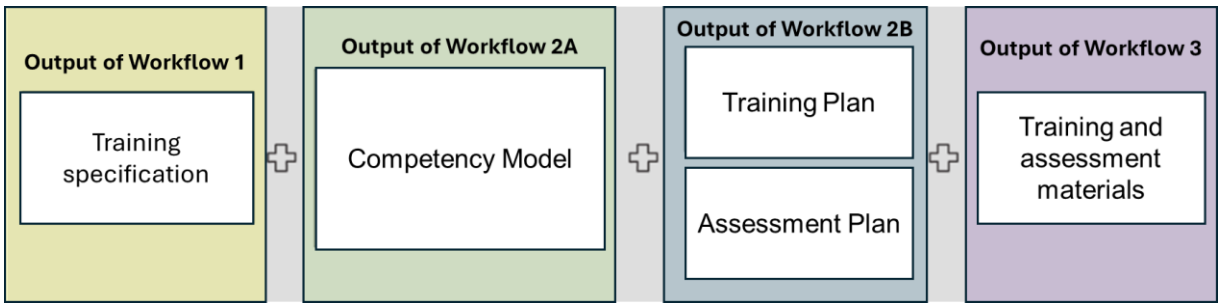

Figure 9 – A schematic summary of the Outcome of Completing Workflows 1 to 3

2.5.2 The ATO should seek CAAS' concurrence before implementing the CBTA programme. The ATO may need to demonstrate a proof of concept as determined by CAAS. The application process is provided in **Appendix 4** of this AC

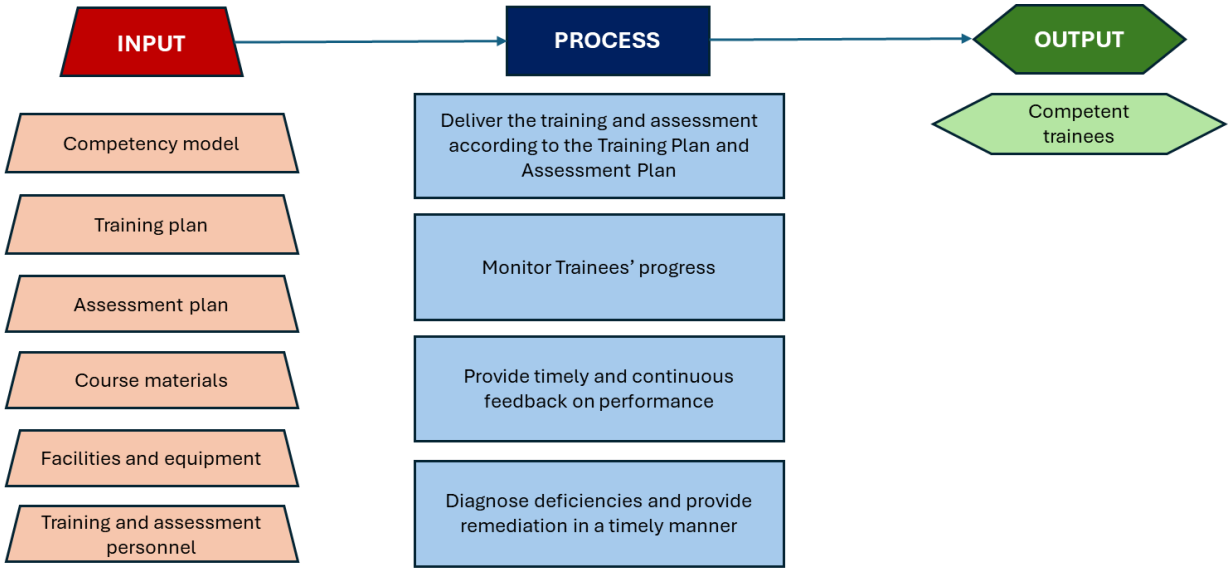

Figure 10 - Workflow 4 Conduct the course in accordance with the training and assessment plans

2.6 EVALUATE

2.6.1 At the end of each course, feedback should be collected from trainees, instructors, assessors and employers to determine the effectiveness of the course in supporting the progression of learning towards competency. Evaluation of the training and assessment plans should be based on valid and reliable evidence. This evaluation may lead to changes or improvements being made to the course. Figure 11 illustrates the process of evaluating a course.

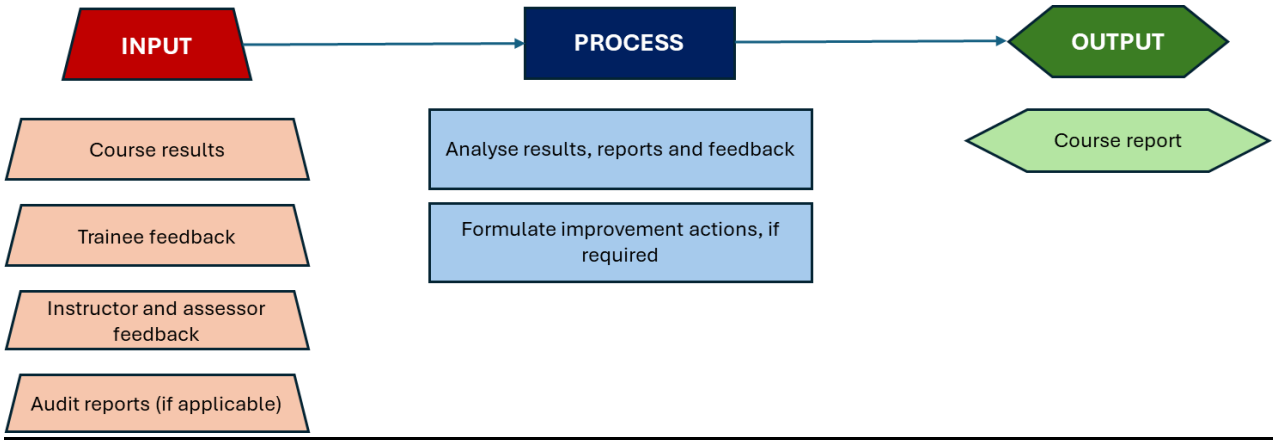

Figure 11 - Workflow 5 Evaluate the course including the training and assessment plans

3 CBTA INSTRUCTORS

CBTA Instructor Training

3.1 The ATO needs to ensure the CBTA instructors are appropriately trained and qualified to conduct the CBTA course. As required in SASP 10, the instructors need to undergo initial and recurrent training. The trainer of such training should have full understanding of the principles of a CBTA approach to training.

3.2 The initial CBTA instructor training programme should cover the following:

(a) Have knowledge of CBTA, including the following underlying principles:

(i) Competency-based training
(ii) Learning from positive performance
(iii) Building resilience
(iv) Data-driven training

(b) Demonstrate knowledge of the structure of a CBTA programme
(c) Demonstrate knowledge of the method of training delivery for CBTA
(d) Demonstrate knowledge of the principles of adult learning and how they relate to CBTA
(e) Conduct objective observations based on the competency framework and document evidence of observed performance
(f) Relate specific performance observations to competencies and observable behaviours
(g) Analyse trainee performance to determine competency-based training needs and recognise strengths
(h) Evaluate performance using a competency-based grading system
(i) Apply appropriate teaching styles during training to accommodate trainee learning needs
(j) Facilitate trainee learning, focussing on specific competency-based training needs
(k) Conduct a debrief using facilitation techniques

3.3 The recurrent CBTA instructor training programme should be conducted annually. The content of the recurrent training should include:

(a) a refresher on the content covered in the initial CBTA instructor training programme listed in Paragraph 3.2; and
(b) a module to ensure inter-rater reliability among the instructors

CBTA Instructor Assessment

3.4 Appendix K of SASP 10 requires the instructor to undergo an assessment upon the completion of the initial training, and at regular intervals, which should be at least once every 2 years. In the case of those holding Flying Instructor (FI) rating, the assessment may be conducted together with the FI rating renewal test. The assessor should demonstrate full understanding of the principles of a competency-based approach to training.

Appendix 1: Observable Behaviours (OB) of the Pilot Competencies

Competencies	Description	Observable Behaviours (OB)
Application of knowledge	Demonstrates knowledge and understanding of relevant information, operating instructions, aircraft systems and the operating environment	OB 0.1 Demonstrates practical and applicable knowledge of limitations and systems and their interaction OB 0.2 Demonstrates required knowledge of published operating instructions OB 0.3 Demonstrates knowledge of the physical environment, the air traffic environment including routings, weather, airports and the operational infrastructure OB 0.4 Demonstrates appropriate knowledge of applicable legislation OB 0.5 Knows where to source required information OB 0.6 Demonstrates a positive interest in acquiring knowledge OB 0.7 Is able to apply knowledge effectively
Application of procedures and compliance with regulations	Identifies and applies appropriate procedures in accordance with published operating instructions and applicable regulations	OB 1.1 Identifies where to find procedures and regulations OB 1.2 Applies relevant operating instructions, procedures and techniques in a timely manner OB 1.3 Follows SOPs unless a higher degree of safety dictates an appropriate deviation OB 1.4 Operates aeroplane systems and associated equipment correctly OB 1.5 Monitors aircraft systems status OB 1.6 Complies with applicable regulations OB 1.7 Applies relevant procedural knowledge

Competencies	Description	Observable Behaviours (OB)
Communication	Communicates through appropriate means in the operational environment, in both normal and non-normal 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, accurately and concisely OB 2.4 Confirms that the recipient demonstrates understanding of important information OB 2.5 Listens actively and demonstrates understanding when receiving information OB 2.6 Asks relevant and effective questions OB 2.7 Uses appropriate escalation in communication to resolve identified deviations OB 2.8 Uses and interprets non-verbal communication in a manner appropriate to the organisational and social culture OB 2.9 Adheres to standard radiotelephone phraseology and procedures OB 2.10 Accurately reads, interprets, constructs and responds to datalink messages in English
Aeroplane Flight Path Management, automation	Controls the flight path through automation	OB 3.1 Uses appropriate flight management, guidance systems and automation, as installed and applicable to the conditions OB 3.2 Monitors and detects deviations from the intended flight path and takes appropriate action OB 3.3 Manages the flight path safely to achieve optimum operational performance OB 3.4 Maintains the intended flight path during flight using automation while managing other tasks and distractions OB 3.5 Selects appropriate level and mode of automation in a timely manner considering phase of flight and workload OB 3.6 Effectively monitors automation, including engagement and automatic mode transitions

Competencies	Description	Observable Behaviours (OB)
Aeroplane Flight Path Management, manual control	Controls the flight path through manual control	OB 4.1 Controls the aeroplane manually with accuracy and smoothness as appropriate to the situation OB 4.2 Monitors and detects deviations from the intended flight path and takes appropriate action OB 4.3 Manually controls the aeroplane using the relationship between aeroplane attitude, speed and thrust, and navigation signals or visual information OB 4.4 Manages the flight path safely to achieve optimum operational performance OB 4.5 Maintains the intended flight path during manual flight while managing other tasks and distractions OB 4.6 Uses appropriate flight management and guidance systems, as installed and applicable to the conditions OB 4.7 Effectively monitors flight guidance systems including engagement and automatic mode transitions
Leadership and Teamwork	Influences others to contribute to a shared purpose Collaborates to accomplish the goals of the team	OB 5.1 Encourages team participation and open communication OB 5.2 Demonstrates initiative and provides direction when required OB 5.3 Engages others in planning OB 5.4 Considers inputs from others OB 5.5 Gives and receives feedback constructively OB 5.6 Addresses and resolves conflicts and disagreements in a constructive manner OB 5.7 Exercises decisive leadership when required OB 5.8 Accepts responsibility for decisions and actions OB 5.9 Carries out instructions when directed

Competencies	Description	Observable Behaviours (OB)
		OB 5.10 Applies effective intervention strategies to resolve identified deviations OB 5.11 Manages cultural and language challenges, as applicable
Problem-solving and decision-making	Identifies precursors, mitigates problems; and makes decisions	OB 6.1 Identifies, assesses and manages threats and errors in a timely manner OB 6.2 Seeks accurate and adequate information from appropriate sources OB 6.3 Identifies and verifies what and why things have gone wrong, if appropriate OB 6.4 Perseveres in working through problems while prioritising safety OB 6.5 Identifies and considers appropriate options OB 6.6 Applies appropriate and timely decision making techniques OB 6.7 Monitors, reviews and adapts decisions as required OB 6.8 Adapts when faced with situations where no guidance or procedure exists OB 6.9 Demonstrates resilience when encountering an unexpected event
Situational awareness and management of information	Perceives, comprehends and manages information and anticipates its effect on the operation	OB 7.1 Monitors and assesses the state of the aeroplane and its systems OB 7.2 Monitors and assesses the aeroplane's energy state, and its anticipated flight path OB 7.3 Monitors and assesses the general environment as it may affect the operation OB 7.4 Validates the accuracy of information and checks for gross errors OB 7.5 Maintains awareness of the people involved in or affected by the operation and their capacity to perform as expected OB 7.6 Develops effective contingency plans based upon potential risks associated with threats and errors

Competencies	Description	Observable Behaviours (OB)
		OB 7.7 Responds to indications of reduced situational awareness
Workload management	Maintains available workload capacity by prioritizing and distributing tasks using appropriate resources	OB 8.1 Exercises self-control in all situations OB 8.2 Plans, prioritizes and schedules appropriate tasks effectively OB 8.3 Manages time efficiently when carrying out tasks OB 8.4 Offers and gives assistance OB 8.5 Delegates tasks OB 8.6 Seeks and accepts assistance, when appropriate OB 8.7 Monitors, reviews and cross-checks actions conscientiously OB 8.8 Verifies that tasks are completed to the expected outcome OB 8.9 Manages and recovers from interruptions, distractions, variations and failures effectively while performing tasks

Appendix 2: Observable Behaviours of the Instructor Competencies

The ATO should assess that the instructors demonstrate the following competencies using the OB markers.

Competencies	Description	Observable Behaviours (OB)
Pilot Competencies	See pilot competency model (9 Competencies) in Appendix K of SASP 10	See pilot competency model (9 Competencies)
Management of the Learning Environment	Ensures that the instruction and assessment are conducted in a suitable and safe environment	OB 2.1 Applies TEM in the context of instruction/ evaluation OB 2.2 Briefs on safety procedures for situations that are likely to develop during instruction / evaluation OB 2.3 Intervenes appropriately at the correct time and level (e.g. progresses from verbal assistance to taking over control) OB 2.4 Resumes training/evaluation as practicable after any Intervention OB 2.5 Plans and prepares training media, equipment and resources OB 2.6 Briefs training devices or aircraft limitations that may influence training, when applicable OB 2.7 Creates and manages conditions that are suitable for the training objectives (e.g. FSTD, airspace, ATC, weather, time, etc.) OB 2.8 Adapts to changes in the environment while minimising training disruptions OB 2.9 Manages time, training media and equipment to ensure that training objectives are met
Instruction	Conducts training to develop the trainee's competencies	OB 3.1 References approved sources (operations and technical sources, training manuals and regulations) OB 3.2 States clearly the objectives and clarifies roles for the training OB 3.3 Follows the approved training programme

Competencies	Description	Observable Behaviours (OB)
		OB 3.4 Applies instructional methods as appropriate, (e.g. explanation, demonstration, learning by discovery, facilitation, in-seat instruction) OB 3.5 Sustains operational relevance and realism OB 3.6 Adapts the amount of instructor inputs to ensure that the training objectives are met OB 3.7 Adapts to situations that might disrupt a planned sequence of events OB 3.8 Continuously assesses trainee's competencies OB 3.9 Encourages the trainee to self-assess OB 3.10 Allows trainee to self-correct in a timely manner OB 3.11 Applies trainee-centred feedback techniques (e.g. facilitation, …) OB 3.12 Provides positive reinforcement
Interaction with the Trainees	Supports the trainees' learning and development and demonstrates exemplary behaviour (role model)	OB 4.1 Shows respect for the trainee, e.g. for culture, language and experience OB 4.2 Shows patience and empathy, e.g. by actively listening, reading non-verbal messages and encouraging dialogue OB 4.3 Manages trainee´s barriers to learning OB 4.4 Encourages engagement and mutual support OB 4.5 Coaches the trainees OB 4.6 Supports the goal and training policies of the Operator/ATO and Authority OB 4.7 Shows integrity (e.g. honesty and professional principles) OB 4.8 Demonstrates acceptable personal conduct, acceptable social practices, content expertise, a model for professional and interpersonal behaviour

Competencies	Description	Observable Behaviours (OB)
		OB 4.9 Actively seeks and accepts feedback to improve own performance
Assessment and evaluation	Assesses the competencies of the trainee and contributes to continuous training system improvement	OB 5.1 Complies with Operator / ATOs and authority requirements OB 5.2 Ensures that the trainee understands the assessment process OB 5.3 Applies the competency standards and conditions OB 5.4 Assesses trainee's competencies OB 5.5 Performs grading OB 5.6 Provides recommendations based on outcome of the assessment OB 5.7 Makes decisions based on the outcome of the assessment OB 5.8 Provides clear feedback to the trainees OB 5.9 Reports strengths and weakness of the training system (training environment, curriculum, assessment/evaluation) including feedback form trainees OB 5.10 Suggests improvements for the training system OB 5.11 Produces reports using provided appropriate forms and media

APPENDIX 3: Grading System

Extract from Figure 6 – Grading System:

Observable Behaviours		Outcome of TEM
How Many	How Often	
Few, hardly, any	Rarely	Unsafe Situation
Some	Occasionally	Not an unsafe situation
Many	Regularly	Safe
Most	Regularly*	Safe*
All, Almost All	Always, almost always	Enhance Safety

Competency Assessment
How Well
1. Ineffectively
2. Minimally acceptable
3. Adequately
4. Effectively
5. Exemplary manner

- The “How Many” dimension provides evidence related to the acquisition of the competency.
- The “How Often” dimension provides evidence related to the robustness of the competency.
    - Regularly* is interpreted as very often.
- The “Outcome of TEM” dimension provides evidence related to the effectiveness of the competency as individual and team countermeasures against the threats and errors.
    - The definitions of the word pictures used for the “Outcome of TEM” are as follows:

Outcome of TEM relating specifically to the competency being assessed	**The demonstrated Observable Behaviours** relating specifically to the competency being assessed
Unsafe Situation	• Did not allow a timely management of the threats or errors • This led to (or could have led to) an unacceptable reduction of the safety margin
Not an unsafe situation	• Did not allow, on few occasions, a timely management of the threats or errors • This led to (or could have led to) a limited and momentary reduction of the safety margin
Safe	• Allowed the anticipation and mitigation of many expected threats, the recognition and mitigation of the unexpected threats and the timely detection and correction of the errors. • This led to (or could have led to) the maintenance of the safety margin
Safe*	• Allowed the anticipation and mitigation of most expected threats, the recognition and mitigation of the unexpected threats and the promptly detection and correction of errors • This led to (or could have led to) an improvement of the safety margin.
Enhance Safety	• Allowed the anticipation and mitigation of all expected threats, the recognition and mitigation of the unexpected threats and the immediate detection and correction of the errors • This led to (or could have led to) an enhancement of the safety margin

    - Safe*: This word picture illustrates a more pro-active safety level.

- Depending on the training objectives of the session, the “Outcome of TEM” dimension may not be relevant. In this case, the grading will be based on lowest the “How Many” and How Often” dimensions as follows:

Observable Behaviours	
How Many	**How Often**
Few, hardly, any	Rarely
Some	Occasionally
Many	Regularly
Most	Regularly*
All, Almost All	Always, almost always

Competency Assessment
How Well
1. Ineffectively
2. Minimally acceptable
3. Adequately
4. Effectively
5. Exemplary manner

Appendix 4: Application process for the CBTA programme

An ATO that is applying to conduct the CBTA programme should follow the five-phase application process:

(a) Pre-application phase

During pre-application phase, the ATO should provide CAAS with a clear understanding of the application, including the ATO's capability and plans to conduct a CBTA programme. The scope of application, regulatory requirements and timeline should be discussed in this phase. Depending on the readiness of the ATO, ATO may proceed with a formal application or schedule for another pre-application meeting.

(b) Formal application phase

During the formal application phase, the ATO should submit the necessary documents and manuals to CAAS, which minimally includes the following:

(i) Training specification, competency model, training and assessment plans

(ii) Training and assessment materials for trainees

(iii) Guidance materials for instructors

(iv) Initial and recurrent CBTA instructor training programmes

(v) List of course developers, and their qualifications

(vi) List of trainers and assessors of CBTA instructors, and their qualifications

(vii) List of CBTA instructors, and their qualifications

(c) Document evaluation phase

During the document evaluation phase, if any corrective action is required, ATO should make the necessary amendments and resubmit the revised documents within an agreed timeline with CAAS.

(d) Demonstration and inspection phase

During the demonstration and inspection phase, the ATO should demonstrate the effectiveness of the policies, methods or procedures as described in their documents. The ATO should brief CAAS on how the CBTA training programme is implemented in practice and facilitate observations by CAAS on the conduct of ground, simulator or aircraft training and assessments by its CBTA instructors. The ATO should also facilitate the CAAS' observations of the training and assessment of CBTA instructors.

(e) Approval phase

Upon satisfactory completion of the evaluation and demonstration phases, approval will be granted to conduct the CBTA training. The ATO may need to demonstrate a proof of concept through a pilot run as determined by CAAS before they are allowed to conduct subsequent runs of the programme.