



TECHNICAL GUIDANCE MATERIAL for Cabin Crew Instructors and Oversight

SUBJECT: TECHNICAL GUIDANCE MATERIAL FOR CABIN CREW INSTRUCTORS AND OVERSIGHT

DATE: 21 September 2023

1. APPLICABILITY

- 1.1. This document applies as the following:
 - 1.1.1. Guidelines for CCIs for the facilitation of theoretical and practical lessons,
 - 1.1.2. Reference to Authorised Officers who conduct oversights on CCIs.
- 1.2. This document does not apply to any test or check that does not require a CCI.

2. PURPOSE

- 2.1. The purpose of this document is to:
 - 2.1.1. Expand on the basic principles and methodologies applied by the CCI during the facilitation of a theoretical or practical class.
 - 2.1.2. Expand on the basic principles and methodologies applied by the AO during the designation and re-designation process of a CCI.
 - 2.1.3. Describe and emphasise the professional behaviours and conduct to be always displayed by CCIs while exercising their privileges.
 - 2.1.4. Ensure that the training experience is maximized for both the student and the CCI.

3. REFERENCE:

- i. ICAO Annex 6
- ii. ICAO Doc 10002
- iii. Civil Aviation Regulations Part 64

4. LIST OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AO	Authorised Officer
ATO	Aviation Training Organisation
CCI	Cabin Crew Instructor Cabin Crew Instructor
CDE	Cabin Designated Examiner
CTD	Cabin Training Device
DCA	Director of Civil Aviation
ICAO	International Civil Aviation Organisation
SACAA	South African Civil Aviation Authority
SACAR	South African Civil Aviation Regulation
SACATS	South African Civil Aviation Technical Standards
SAQA	South African Qualifications Authority
SOP	Standard Operating Procedures
SSA	Safety Standards and Assurance
TGM	Technical Guidance Material
TPM	Training and Procedures Manual
TS	Technical Standards

5. DESIGNATION OF INSTRUCTORS

- 5.1. A person is appointed as CCI by the AO in compliance with the SACAR 64.01.10 and associated SACATS.
- 5.2. The designation is granted at the entire discretion of the SACAA and shall therefore be considered a privilege and not a right.
- 5.3. It remains the obligation of the CCI to ensure the maintenance of the highest standards and to comply with all regulatory requirements to maintain the designation.

6. RESPONSIBILITIES OF CCIS

- 6.1. CCIs act on behalf of the DCA while exercising the privileges of the designation and should not succumb to business pressures and scheduling that may demand an unreasonable effort on their part.
- 6.2. CCIs are expected to exercise their privileges in accordance with the regulations, technical standards, technical guidance material and the code of conduct, which is signed annually, when applying for continued maintenance of designation or redesignation, as applicable.

- 6.3. CCI shall ensure that a candidate for a cabin crew licence receives the necessary training, as prescribed in the relevant SACATS, writes, and passes the relevant theoretical knowledge examination before commencing the relevant skills test. This applies to each of the following:
 - 6.3.1. Initial skills test – may only commence on successful completion of the exam with the SACAA.
 - 6.3.2. Recurrent or Aircraft type rating or Validation of a foreign licence or competency card skills test – may only commence on successful completion of the final theory examination for that subject.
- 6.4. CCIs are expected to evaluate the cabin crew member's ability to apply the required knowledge and perform the tasks required of a cabin crew member whilst exercising the privileges of his or her cabin crew licence.
- 6.5. CCIs are required to identify and deal with hazardous (inappropriate) behaviours, always promote safety, encourage learning, and assist the training organization(s) with training standard development and improvement.
 - 6.5.1. CCIs must identify and address irregular practices from an ATO or an operator and report these irregularities to the relevant parties in writing.
 - 6.5.2. Records of the communication with the ATO and/or operator shall be retained by the CCI and shall be produced on request from the SACAA.
- 6.6. CCIs must maintain an efficient line of communication with SACAA.
- 6.7. CCIs must refrain from bringing the SACAA into disrepute, i.e., defamatory and derogatory comments directed at SACAA or its representatives.
- 6.8. CCIs are representatives of the DCA and are expected to be professional, punctual, respectful, ethical and advocates of the SACAA's vision and mission statements.
- 6.9. CCIs may be required to perform CCI duties at the behest of the SACAA (SACATS 64.01.10(5)(11)). If the SACAA requires this, an official letter will be emailed to the CCI detailing the nature of the training required. The SACAA may request such a duty when it deems it necessary to ensure the retention of skills or aircraft type ratings across the industry.

7. STANDARDISATION AND OVERSIGHTS

- 7.1. SACAA has the mandate to supervise the activities of all CCIs to ensure that the facilitation standards for theoretical and practical training are achieved uniformly and at a satisfactory level.
- 7.2. To this effect, the DCA appoints AO who are trained and suitably qualified to conduct oversights on the activities of CCIs.
- 7.3. The purpose of oversights is to ensure that the CCIs achieve the required standards and that they conduct themselves in conformity with the Code of Conduct and guidelines provided in this document.
- 7.4. An oversight may only be conducted on one CCI at a time during the facilitation of a class. Where more than one CCI is being assessed on one day, or by the same AO, each CCI is responsible for his/her own briefing, facilitation component and debriefing; in essence, it remains an individual oversight.

- 7.5. The oversight conducted in one category may count for the other category unless otherwise instructed by the SACAA.
- 7.6. In the case of a theoretical or practical class, the CCI should inform the student(s) about the oversight and its purpose. The CCI should establish if all student(s) are comfortable with an oversight taking place.
- 7.7. CCIs are responsible for arranging their oversight with the designated AO. The request for an oversight shall be addressed in writing via email to the AO and shall contain the following information:
 - 7.7.1. date and time of facilitation/training
 - 7.7.2. time allocated to the class
 - 7.7.3. location
 - 7.7.4. CTD type
 - 7.7.5. component being trained
- 7.8. Should the request not be accommodated at the time, the CCI will be required to propose another date and/or time.
- 7.9. The AO may request a written lesson plan from the CCI prior to the oversight.

8. DUTIES AND RESPONSIBILITIES OF THE AO DURING AN OVERSIGHT / ASSESSMENT

- 8.1. During an oversight, the AO is assuming an administrative duty. He or she may therefore by no means interfere with the flow or the outcome of the lesson unless it is imperative in the interests of safety.
- 8.2. In the case of a CCI ending a lesson and the AO has observed that the student(s) did not achieve the required standard and do not have the necessary understanding of the subject matter, the AO will discuss the matter with the CCI, and the lesson may then be terminated in terms of the SACAR.
- 8.3. An Oversight / Assessment may only be conducted during the presentation of a component which requires a CCI.
- 8.4. During an oversight / assessment, the AO evaluates the CCI against all aspects and items listed in the “CCI oversight report.” The AO will also ensure that the CCI:
 - 8.4.1. is acting within the limits of his or her authority.
 - 8.4.2. displays a satisfactory level of knowledge and skills appropriate to the component presented.
 - 8.4.3. is well conversant with the SACAR, SACATS and all SACAA Aeronautical Information Publications/Circulars.
 - 8.4.4. conducts the lesson fairly, in compliance with the Technical Standards, and in accordance with the guidelines provided in this TGM.
 - 8.4.5. covers all required sections and aspects, as applicable; and
 - 8.4.6. follows administrative procedures in compliance with the requirements of the SACAR and SACATS.
- 8.5. The AO should meet the CCI prior to the oversight for a briefing and to discuss the rules of engagement for the oversight.
- 8.6. On completion of the lesson, and upon request from the CCI, the AO may provide input to the student(s). The AO may also brief, coach or mentor the student(s) and/or CCI on any matter(s) pertaining to the SACAA.

8.7. After the student(s) have departed, the AO shall debrief the CCI.

9. INITIAL CCI DESIGNATION PROCESS

9.1. CCI ASSESSMENT

9.1.1. The applicant for CCI designation shall be invited to write an examination conducted by the SACAA.

9.1.2. The purpose of the examination is to determine the suitability of the candidate in respect of knowledge, skills, and attitude.

9.1.3. ICAO recommends that knowledge, skills and attitude form part of the attributes that are considered in determining the suitability of an applicant. These skills are different to those acquired as an active cabin crew member as the focus, objective and exposure is very different.

9.1.4. Factors that shall be considered include:

- a. The applicant shall hold a valid cabin crew member licence and medical certificate. This is necessary for the benefit of embedded knowledge and experience.
- b. **Experience** as a cabin crew member with a minimum of 1000 documented hours as an active cabin crew member. This is considered an acceptable minimum period in which to gain valuable experience to enable the applicant to develop the ability to make informed decisions as a CCI. Decisions made as a CCI, while being based on regulatory requirements, are also based on experience gained through skills acquired as a cabin crew member.
- c. **Knowledge** – An assessment of this is made during the examination process. The applicant shall be expected to be familiar with the following sections of the SACARs and SACATS, as applicable to cabin crew:
 - i. Part 1
 - ii. Part 64
 - iii. Part 67
 - iv. Part 91
 - v. Part 121
 - vi. Part 141
 - vii. Part 185
- d. **Skills** – The skills acquired as a cabin crew member enable a CCI to make justifiable and sound decisions as a CCI, based on exposure to cabin crew duties and training activities. During the examination process, the applicant's ability to utilise these skills will be tested through the application of regulations.
- e. **Skills** – Further acquisition of skills shall be considered by the attainment of the following qualifications:
 - i. Train-the-Trainer course – this course shall be acceptable where there is a practical component attached.
 - ii. Assessor course – meeting with the outcome of the SAQA unit standards.
 - iii. Attitude – This will be evaluated by observation of the following elements:
 - iv. Punctuality

- v. Time management
- vi. Stress management
- vii. Eloquence
- viii. Personal presentation

9.1.5. The examination has a minimum required outcome of 75%.

9.1.6. On successful completion of the examination, the candidate may commence with a full developmental programme.

10. CCI DEVELOPMENTAL PROGRAMME

10.1. The developmental programme shall consist of at least:

10.1.1. Two observations of a group of at least 4 actuals students being trained by a designated CCI.

10.1.2. Two co-facilitations of a group of at least 4 actuals students being trained with a designated CCI.

10.1.3. Two facilitation sessions of a group of at least 4 actuals students being trained under the supervision of a cabin designated examiner.

10.1.4. Notes detailing the following information are required as part of the developmental programme:

- a. Module / Subject that has been observed or co-facilitated or facilitated under the supervision of a cabin designated examiner.
- b. Time spent on each module / subject.
- c. Number of student's present.
- d. Appropriate interaction with students.
- e. Demonstration of sufficient knowledge of subject and regulations.
- f. Application of appropriate facilitation / instructional techniques.
- g. Adequate addressing of training needs.
- h. Time management

10.1.5. The developmental programme must be documented on forms developed by the ATO or operator for all phases of the developmental programme. Form CA 64-23 may only be used for the 2 final oversights conducted by the mentor CDE.

10.1.6. On successful completion of the documented developmental programme, a CDE affiliated with the ATO shall forward a recommendation letter to the PEL Inspector. This will indicate that the applicant is ready for oversights associated with the accreditation process.

11. CCI INITIAL OVERSIGHT PROCESS

11.1. This oversight process is applicable to all applicants for CCI appointment.

11.2. The applicant shall be oversighted on a minimum of two occasions.

11.3. The first phase of oversights will comprise a panel presentation, by the CCI, of prepared and unprepared topics.

- 11.4. The applicant will be advised of the prepared topic number 1, 30 days before the presentation date and, for topic number 2, 7 days before the presentation date.
- 11.5. The applicant will be required to develop a presentation for each topic.
- 11.6. The duration of each prepared presentation will be a minimum of 15 minutes and maximum of 20 minutes.
- 11.7. The applicant may not use material from the operator or ATO as the assessment will gauge the applicant's ability to develop a suitable presentation.
- 11.8. The applicant may use any resources that they deem to be beneficial to the lesson, provided that they are able to transport it to the offices of the SACAA.
- 11.9. The presentation must be based on regulations and not company procedures.
- 11.10. An unprepared presentation topic will be given to the candidate on the day of the presentation.
- 11.11. The candidate will be allowed 10 minutes to develop and prepare the presentation.
- 11.12. The unprepared presentation is expected to be a minimum of 3 minutes and a maximum of 5 minutes in duration.
- 11.13. The candidate will be evaluated on the following:
 - 11.13.1. Introduction – is the objective clearly defined.
 - 11.13.2. Body – does the presentation have a definite body and is there a logical flow.
 - 11.13.3. Conclusion – does the conclusion capture the main points of the presentation.
 - 11.13.4. Facilitation technique used.
 - 11.13.5. Use of body language.
 - 11.13.6. Use of voice.
 - 11.13.7. Effectiveness of presentation.
 - 11.13.8. Appropriacy oof resources.
 - 11.13.9. Ability to explain concept(s) to facilitate understanding
 - 11.13.10. Ability to answer questions.
 - 11.13.11. Demonstrate adequate subject matter knowledge.
 - 11.13.12. Timing
- 11.14. A CDE responsible for the development of an applicant shall be present during the panel and presentations and oversights conducted by an AO. This is to minimize any disruption to the operation in the event of unsatisfactory performance by the candidate.
- 11.15. On satisfactory completion of the presentations to the panel, live oversight(s) will be scheduled.
- 11.16. The oversights are required to comprise of actual students, i.e. those with a vested interest in the outcome of the training delivered.
- 11.17. On completion of the oversight the applicant shall be debriefed in accordance with the oversight report.
- 11.18. Following completion of the successful oversight(s), the PEL Inspector will compile the required documentation and submit them to the necessary areas for approval.

- 11.19. Once approved by the SACAA, the applicant's name shall be added to the CAA website as an instructor. It is only when the applicant receives his or her letter of accreditation that s/he may start exercising duties as a CCI.
- 11.20. In the event of an unsatisfactory oversight, the applicant shall be advised of the requirements to achieve a satisfactory outcome. Sufficient and appropriate time shall be given for the necessary corrective action to be implemented.
- 11.21. A follow up oversight shall then be scheduled to ensure that the corrective action has been adopted and the candidate is performing satisfactorily.
- 11.22. Continued unsatisfactory performance may result in the recommendation that the candidate is not suited to becoming a CCI.
- 11.23. A record of the unsatisfactory performance will be kept on the applicant's file.

12. RE-DESIGNATION OF CCI

- 12.1. This is applicable to all CCIs and CDEs that exercise duties as a CCI.
- 12.2. A CCI shall be assessed once during a financial year, by a CDE, as part of ongoing surveillance and for purposes of re-designation.
- 12.3. A CCI shall be oversighted according to the designation period, by an AO as part of the re-designation process.

13. RE-ACTIVATION OF CCI DESIGNATION AFTER 12 MONTHS

- 13.1. Where a CCI has not exercised his or her privileges for a period of between 12 – 36 months the following guidelines for reactivation of the appointment shall apply:
 - 13.1.1. the CCI shall apply form for re-designation of the status and submit proof of payment, as stipulated in Part 187.
 - 13.1.2. complete a developmental programme, as detailed under section 5.2 of the TGM.
 - 13.1.3. the CCI shall be required to attend a CCI conference.
 - 13.1.4. have an oversight conducted by a PEL Inspector.
 - 13.1.5. On completion of the oversight the applicant shall be debriefed in accordance with the oversight report.
 - 13.1.6. Following completion of the successful oversight(s), the PEL Inspector will compile the required documentation and submit them to the necessary areas for approval.
 - a. Once approved by the SACAA, the applicant's name shall be added to the CAA website as an instructor.
 - b. It is only when the applicant receives his or her certificate of accreditation that s/he may start exercising duties as a CCI.
 - c. In the event of an unsatisfactory oversight, the applicant shall be advised of the requirements to achieve a satisfactory outcome. Sufficient and appropriate time shall be given for the necessary corrective action to be implemented.
 - d. A follow up oversight shall then be scheduled to ensure that the corrective action has been adopted and the candidate is performing satisfactorily.

- e. Continued unsatisfactory performance may result in the recommendation that the candidate is not suited to becoming a CCI.
- f. A record of the unsatisfactory performance will be kept on the applicant's file.

13.1.7. Where a CCI has not exercised his or her privileges for a period longer than 36 months a full initial application process shall be followed.

14. ASSESSMENTS CONDUCTED BY CDE

- 14.1. An assessment may only be conducted during the presentation of a lesson which requires a CCI, i.e., cabin crew safety and emergency procedures training, pilot safety and emergency procedures training.
- 14.2. During an assessment, the CDE evaluates the CCI against all aspects and items listed in the "CCI assessment report". The CDE will ensure that the CCI:
 - 14.2.1. is acting within the limits of his or her scope.
 - 14.2.2. displays a satisfactory level of knowledge and skills appropriate to the lesson being delivered.
 - 14.2.3. is well conversant with the SACAR, SACATS and all SACAA Aeronautical Information Publications/Circulars.
 - 14.2.4. delivers the lesson fairly, in compliance with the Technical Standards, and in accordance with the guidelines provided in the TGM for CCIs.
 - 14.2.5. covers all required sections and aspects contained in the lesson plan; and
 - 14.2.6. follows administrative procedures in compliance with the requirements of the SACAR and SACATS.
- 14.3. On completion of the lesson, and upon request from the CCI, the CDE may provide input to the student(s). The CDE may also brief, coach or mentor the student(s) and/or CCI on matter(s) pertaining to the SACAA.
- 14.4. After the departure of the student(s), the CDE shall debrief the CCI.
- 14.5. Should a CCI score between 70% and 74%, a follow up oversight by a PEL Inspector is required but the CCI may continue exercising his or her privileges until a PEL Inspector is available.
- 14.6. Should a CCI score 69% or below, the CCI may not exercise any privileges until the follow up oversight has been satisfactorily conducted.
- 14.7. A record of the unsatisfactory performance will be kept on the CCI's file.
- 14.8. Should a CCI be dissatisfied with the outcome of an assessment or the CDEs manner of conducting the assessment, the CCI should submit a written report to the SACAA within 7 days of the assessment.

15. OVERSIGHTS CONDUCTED BY AO

- 15.1. The I re-designation oversight for CCIs shall be conducted by an AO whilst the CCI presents a lesson.
- 15.2. On completion of the oversight the applicant shall be debriefed in accordance with the oversight report.
- 15.3. In the event of an unsatisfactory oversight, the CCI shall be advised of the requirements to achieve a satisfactory outcome. Sufficient and appropriate time shall be given for the necessary corrective action to be implemented.

- 15.4. A follow up oversight shall then be scheduled to ensure that the corrective action has been adopted and the CCI is performing satisfactorily.
- 15.5. The CCI may not exercise any privileges until the follow up oversight has been satisfactorily conducted.
- 15.6. Continued unsatisfactory performance may result in the recommendation that the candidate is not suited to retaining the CCI status.
- 15.7. A record of the unsatisfactory performance will be kept on the applicant's file.
- 15.8. Following completion of the successful oversight(s), the PEL Inspector will compile the required documentation and submit them to the necessary areas for approval.
- 15.9. Once approved by the SACAA, the applicant will be issued with a renewal certificate which permits him/her to continue exercising privileges as a CCI.
- 15.10. The applicant's name will also be added to the CAA website as an instructor.

16. TRAINING SCHEDULE

- 16.1. The CCI shall submit an individual training schedule, detailing his or her training and assessment activities and duties, to an authorised officer, on a monthly basis.
- 16.2. The training schedule shall be submitted to the AO by the last day of the month preceding the month in question.
- 16.3. The training schedule shall include the following details:
 - 16.3.1. Date of training.
 - 16.3.2. Type of training (module) to be conducted.
 - 16.3.3. Commencement time.
 - 16.3.4. Venue.

17. MAXIMUM NUMBER OF STUDENTS FOR TRAINING

- 17.1. For initial students, planning of the practical training schedule shall consider adequate time to be given for the CCI to demonstrate the performance of the drills and thereafter for all candidates to participate in all required drills during the training.
- 17.2. For recurrent or refresher students, planning of the practical training schedule shall consider adequate time to be given for the CCI to demonstrate the performance of any new drills or correct demonstration of drills being performed incorrectly by students and also for practical drills to be demonstrated/ practiced at least once by students.

18. BRIEFING A STUDENT

- 18.1. A CCI is expected to conduct a full briefing prior to the start of any lesson, detailing the objectives and outcomes of the lesson.

18.2. Where an AO or CDE is present, for oversight or assessment purposes, it is imperative to explain to the student(s) that the role of the AO or CDE is to oversee the CCI in question and not the student(s) performance.

19. DEBRIEFING A STUDENT

19.1. A CCI is responsible to conduct a full debriefing on completion of the lesson. This is to ensure the individual's understanding of the material, the training expectations and outcomes and to summarise and clarify any vital information for the competent completion of the component or section.

19.2. Where observations are noted which could result in findings of "not yet competent" during an assessment, the CCI shall ensure that the student(s) are given additional opportunities to practice any practical drills.

19.3. Additionally, group debriefings are encouraged as they offer an opportunity for further learning for all student(s).

19.4. Debriefings may be collated and conducted jointly where there has been more than one CCI presenting a practical training component.

19.5. Written observations/remarks are required when the student has:

19.5.1. not acquitted himself or herself adequately in the class to enable understanding of the lesson.

19.5.2. been disruptive during the class.

19.5.3. arrived late, resulting in the student missing out on a component of the lesson.

19.5.4. experienced a personal trauma which may affect either a theoretical or practical assessment outcome.

19.5.5. not been present for a lesson.

19.6. Written observations/remarks are also required when deemed necessary by the CCI.

19.7. The observations / remarks should be sufficient to inform others, support subsequent discussion and justify any decisions taken regarding the performance of a student.

19.8. During the lesson, it is sometimes difficult to write clear and concise observations or remarks. It is good practice that CCIs use notes made during the lesson to complete a final copy of the feedback form.

19.9. Before conducting the debriefing, the CCI should consult his notes to establish the final feedback to be given for each section and, if necessary, the nature of any further training requirements.

19.10. In reaching his decision, the CCI may need to ask additional questions which could assist him or her to establish whether the student had a good reason for taking a particular course of action.

19.11. Where a need for further training is identified, the CCI should inform the student(s) accordingly, followed by a summary of any weak areas with suggestions, where necessary, of ways to improve performance.

19.12. The CCI should also provide positive reinforcement of aspects that were well handled and well understood and give examples of good resource management and decision making by the student(s).

19.13. The CCI should encourage the student(s) to self-critique his or her performance(s) (good and not so good).

19.14. The CCI should conduct a fair and unbiased debriefing of the student(s) based on identifiable factual items.

19.15. A balance between friendliness and firmness should be maintained. It may be appropriate to use a facilitative style of questioning for the applicant to obtain maximum benefit from the debriefing.

- 19.16.** One effective facilitation method is to:
- a. start with an introduction
 - b. avoid dealing with issues chronologically
 - c. ask open questions per issue
 - d. get the student(s) to do the thinking and talking
 - e. summarise at the end (it can be useful to get the student(s) to summarise)
- 19.17.** The following points should be discussed with the student(s) at the CCI's discretion:
- a. How to avoid or correct mistakes.
 - b. Any other points of criticism noted.
 - c. Any advice considered helpful
 - d. Any good points
- 19.18.** Further de-briefing guidelines:
- a. The debriefing needs to be valid and comprehensive.
 - b. Any additional questions, input or comments noted by the CCI which will aid in understanding or improved performance of the cabin crew member should also be discussed during the debriefing.

20. GENERAL PRINCIPLES FOR INSTRUCTION

- 20.1.** A CCI is appointed to facilitate the learning process for new and existing crew members. This includes leading discussions, asking open-ended questions, guiding processes and tasks, and enabling active participation of students and engagement with ideas, while imparting information to students.
- 20.2.** A CCI should be particularly aware of cultural differences and the diversity of the students as this will influence the manner in which he or she approaches a lesson.
- 20.3.** A CCI should always target the lesson at the entry level of understanding. This may vary from group to group.
- 20.4.** A CCI should make a concerted effort to be relaxed, relatable and non-threatening. This will encourage the students to interact more and creates an environment more conducive to learning.
- 20.5.** A CCI should not become over-friendly or emotionally involved with the student(s) as this could cloud the CCI's ability to remain impartial.
- 20.6.** CCIs must not allow personal prejudices to interfere with the objective delivery of a lesson.
- 20.7.** The CCI sets the tone for respect in the workplace and perception of the industry by his or her actions and behaviour.
- 20.8.** A CCI should train for all possibilities and not just the skills test outcome.
- 20.9.** The CCI should demonstrate any practical drills prior to giving students the opportunity to do so.
- 20.10.** The CCI will, as far as possible, not form part of any scenario as he or she should be monitoring the student's ability to perform tasks and drills and provide input, feedback and guidance on that.

- 20.11. The CCI should integrate both theoretical and practical information with practical examples for better understanding.
- 20.12. The lesson should follow a planned and logical sequence.
- 20.13. By pre-planning, a CCI can combine various items to maximise the productivity and efficiency of the learning environment. However, care must be taken to ensure that the students will not be rushed while performing the different aspects.
- 20.14. The CCI should give credit where it is due, and not be influenced by poor performance on a previous item or component when delivering a lesson.
- 20.15. Human factors can also have a significant effect on training reliability. CCIs should be conscious of these factors and attempt to limit their effects as much as possible for they may result in a lack of smoothness or accuracy in the student's performance. Some of these factors are:
 - 20.15.1. fatigue - insufficient sleep or rest prior to the lesson
 - 20.15.2. emotions - work or home personal problems
 - 20.15.3. health - cold, flu, etc.
 - 20.15.4. time of day
 - 20.15.5. distractions - noise, interruptions, etc.
- 20.16. CCIs should be aware that these factors could also influence his or her instructional capabilities.
- 20.17. Training / Lesson plan – In preparation for the lesson, the CCI shall use an approved training / lesson plan.
- 20.18. A well-designed lesson plan is a useful tool which can:
 - 20.18.1. enhance the effectiveness of the training processes.
 - 20.18.2. assist the CCI with achieving the objectives.
 - 20.18.3. cater for contingencies in case of deficient performance (additional questions or exercises, another scenario etc.); and
 - 20.18.4. prevent the accidental omission of compulsory aspects

21. **INSTRUCTION**

- 21.1. Robert Gagne's nine steps of instruction. According to Robert Gagne (1985) there are nine events that provide a framework for an effective learning process:

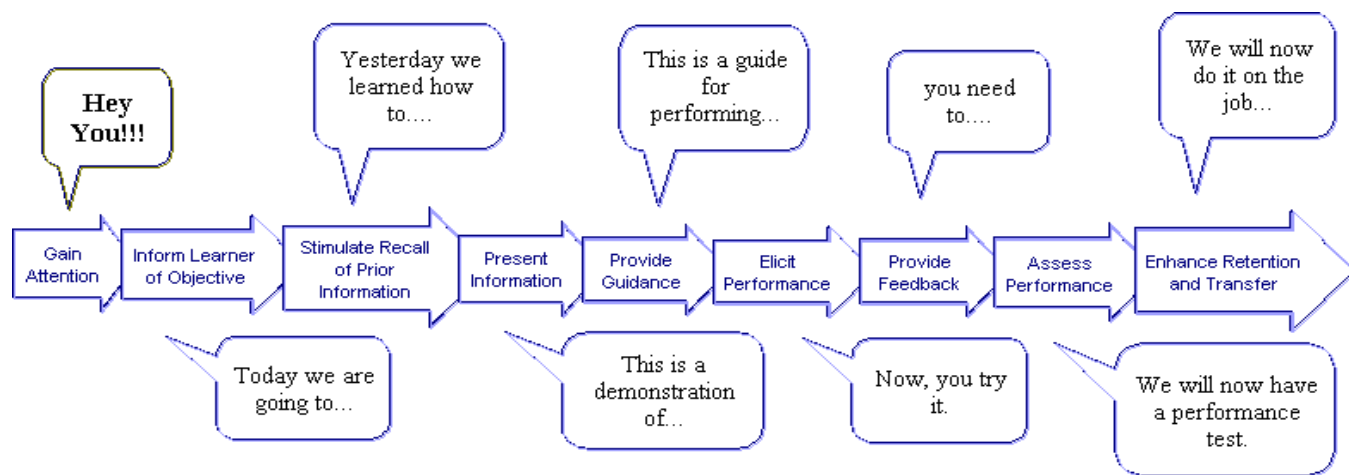


Figure 1: Robert Gagne's nine steps of instruction.

- 21.2. "These nine steps are general considerations to be taken into account when designing instruction. Although some steps might need to be rearranged (or might be unnecessary) for certain types of lessons, the general set of considerations provide a good checklist of key design steps." (Good, Brophy, 1977).
- 21.3. The Nine Steps
- 21.4. Gain attention: Present a story, problem, or a new situation that will grab the students' attention. The ideal is to grab the student's attention so that they will become involved in the learning process. Interest devices that can be used include:
- 21.4.1. Story telling
 - 21.4.2. Demonstrations
 - 21.4.3. Presenting a problem to be solved
 - 21.4.4. Identifying why it is important to them
- 21.5. **Provide a learning objective:** This allows the students to organise their thoughts on what they will learn and perform. The problem that some instructors run into is telling the students the formal learning objectives word for word, rather than breaking it down into a less formalised statement. Instead of objectives or intentions for lessons try setting "Big Questions" and then enable steps to answer those big questions.
- 21.6. **Stimulate recall of prior knowledge:** This allows the students to use two important learning processes:
- 21.6.1. **Retrieval practice:** Retrieval enhances learning by retrieval-specific mechanisms rather than by elaborative study processes and is an effective tool to promote conceptual learning (Butler, 2010; Karpicke, Janell, 2011).
 - 21.6.2. **Scaffolding:** This is building upon the student's previous knowledge and skills. The basic steps of scaffolding include:
 - a. Start by building on what the students already know.
 - b. Add more details and information over a period of time.
 - c. Allow the students to perform on their own.

d. Afterwards, the fading process begins by slowly removing the support in order to give the students more responsibility.

21.7. Present the material: Sequence and chunk the information to avoid cognitive overload. Blend the information to aid in information recall. This method allows the students to receive feedback on individualised tasks, thereby correcting isolated problems rather than having little idea of where the root of the learning challenge is.

21.8. Provide guidance for learning: Provide coaching on how to learn the skill. The rate of learning increases because students are less likely to lose time and become frustrated by practicing the wrong way or using poorly understood concepts. Coaching the students to learn-to-learn also has the benefit of helping them to gain metacognitive skills that will aid them with future performance initiatives.

21.9. Elicit performance: Practice by letting the student do something with the newly acquired behaviour, skills, or knowledge. Observational learning has several effects on students:

21.9.1. acquisition – new responses are learned by observing the model.

21.9.2. inhibition – a response that otherwise may be made is changed when the observer sees a model being punished.

21.9.3. disinhibition – a reduction in fear by observing a model's behaviour go unpunished in a feared activity.

21.9.4. facilitation – a model elicits from an observer a response that has already been learned.

21.9.5. creativity – observing several models performing and then adapting a combination of characteristics or styles.

21.10. Provide feedback: This can be a test, quiz or verbal comments. The feedback needs to be specific, rather than something similar to "you are doing a good job". Tell them why they are doing a good job and/or provide specific guidance.

21.11. Assess performance: Evaluate the students to determine if the lesson has been learned and provide general progress information.

21.12. Enhance retention and transfer: Inform the students about similar problem situations, provide additional practice, put the students in a learning transfer situation and review the lesson.

22. FIRST PRINCIPLES OF INSTRUCTION

22.1. M. David Merrill (2002) identified five instructional design principles that promote learning when creating learning/training environments, processes and products. He noted that the most effective learning processes or environments are problem-centred and involved the student in five distinct phases promoting learning when:

22.1.1. students are engaged in solving real world problems – start with simple problems and work through a progression of increasingly complex problems.

22.1.2. existing knowledge is activated as a foundation for new knowledge – prior experience from relevant past experience is used as a foundation for the new skills and knowledge (also known as scaffolding).

22.1.3. knowledge is demonstrated to the student – they are shown, rather than just being told.

22.1.4. new knowledge is applied by the student – they are required to use their new knowledge or skill to solve problems.

- 22.1.5. new knowledge is integrated into the student’s world – they are able to demonstrate improvement in their newly acquired skills and to modify it for use in their daily work.
- 22.1.6. Merrill uses the following diagram to show the four phases surrounding problems:

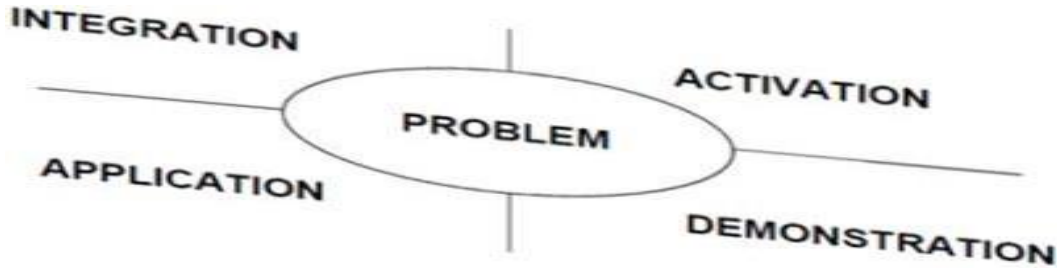
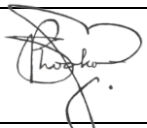




Figure 2: Four phases surrounding problems.

22.2. According to Merrill, the definition of a problem varies among theorists, such as engaging in a simulation or being involved in a real-world task. He uses the word problem to include a wide range of activities, with the most critical characteristics being that the activity is a whole task, rather than components of a task and that the task is representative of those the student will encounter in the real world.

23. AUTHORITY

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