



## **ASSEMBLY — 38th SESSION PERIOD**

### **TECHNICAL COMMISSION**

#### **Agenda Item 38: Other issues to be considered by the Technical Commission**

#### **AVIATION INSTRUCTOR'S SELECTION, TRAINING AND ACCREDITATION SYSTEM**

(Presented by COCESNA/ICCAE)

#### **EXECUTIVE SUMMARY**

The purpose of this working paper is to present information related to the implementation of the aviation instructor's selection, training and accreditation system under the Competency Approach designed by the Central American Institute of Aeronautical Training (ICCAE) to strengthen training skills for professionals conducting teaching-learning processes in the field of regional civil aviation. The purpose of this system is to cause an innovative and effective impact on the quality of training, by applying advanced training methods and techniques as well as the International Civil Aviation Organization's (ICAO) norms and standards in this field. Given the similarities of the different states of the CAR/SAM region, this system is also relevant to the rest of Latin America.

<i>Strategic objectives:</i>	This working paper relates to the Safety Strategic Objective.
<i>Financial implications:</i>	Not applicable.
<i>References:</i>	

### **1. INTRODUCTION**

1.1 During the last years, ICCAE has promoted several actions for its consolidation as a Regional Centre of Aviation Training par excellence. Among other aspects, it has involved to direct an important effort towards strengthening of training skills of the team of instructors supporting the work of the Institute in the conduction of academic activities and in the innovation of aviation training curricula under the competency approach. These actions have been developed under the frame of ICAO regulations included in different documents, such as Annex 1 — *Personnel Licensing*, Eleventh Edition, 2011; ICAO Doc 9841 — *Manual on the Approval of Flight Crew Training Organisation*, Second Edition, 2012; Doc 9941 — *Training Development Guide — Competency-Based Training Methodology*, First Edition, 2011; Doc 9868 — *Procedures of Air Navigation Services-Training*, First Edition, 2006, last amendment, August 2011; and Doc 7192 — *Air traffic electronic personnel training manual*, 2011; in addition to the considerations of the NGAP initiative and TRAINAIR PLUS Programme.

(5 pages)

<sup>1</sup> English and Spanish versions provided by COCESNA.

1.2 As a result of the diagnosis carried out by ICCAE through its quality assessment and maintenance system, instructors of this institute have been identified as outstanding professionals in the aviation industry due to their knowledge, abilities, experience and expertise, a fact that allow them to perform training tasks; even so, they have some limitations in general because:

<ul style="list-style-type: none"> <li>• They lack a formal training in teaching or particularly in andragogy.</li> <li>• They refer to an objective-based model for the conduct of training processes.</li> <li>• They have a limited command of the application of the competency training approach.</li> <li>• They do not have a solid basis to understand the educational phenomenon as a whole.</li> <li>• They seldom perform teaching activities.</li> <li>• When they have had a formal training, it has been limited to specific and short courses, mainly oriented towards training techniques.</li> <li>• The application of training techniques is mainly based on master lectures with power point presentations.</li> <li>• The conduct of the courses is much more focused on the trainer than on the trainees.</li> </ul>	<ul style="list-style-type: none"> <li>• The criterion of extensive aeronautical training and experience, including the evidence of technical and generic teaching skills has prevailed for the selection of instructors.</li> <li>• The credit as an instructor is mainly focused on obtaining a diploma of a particular course and not on a training and teaching certification process.</li> <li>• There is a limited inclusion of information and communication technologies in the training design and implementation.</li> <li>• Practice has been mainly based on the face-to-face mode.</li> <li>• They lack a vision of development under a process of continuous training.</li> </ul>
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1.3 The above information has led to set as a priority an aviation instructor's selection, training and accreditation system under the competency approach. This system aims to ensure professional suitability and certification, with emphasis on the evaluation and development of teaching skills based on a comprehensive and continuous training process.

1.4 As a result of the knowledge and experience accumulated during this process, the initiative of aviation instructor's selection, training and accreditation system has currently gone beyond the institutional scope and it has become a concern for all civil aviation subsystems. Therefore, the ICCAE model in this field can be applied as a reference for the rest of the Latin American industry. This can be achieved because of the similar realities and conditions of the different states of this region.

1.5 In addition, this process involves the presence of the relevant Civil Aviation Authorities, taking into account their role as regulatory and surveillance entities of aviation, and therefore, of the training centre certification, including the instructor's training and qualification processes.

## 2. BACKGROUND

2.1 According to the ICAO Doc 9841 — *Manual on the Approval of Flight Crew Training Organizations*, Second Edition, 2012, the academic quality of an institution dedicated to professional aviation training depends on the appropriate combination of the different elements that it comprises. One of the most remarkable elements is the body of instructors which, besides having training and expertise in their own profession/specialisation, should have the skills to conduct competency-based teaching-learning processes.

2.2 It is possible to reaffirm that the different aviation industry authorities have specialised personnel with high professional levels and extensive experience in their work fields. An important number of them participate in training activities. As a result, their teaching-learning vocation can be identified through a selection process. Thus, they could be progressively included into the different training levels, so that they can turn into potential instructors.

2.3 ICAO has adopted the competency-based professional training approach. As a consequence, there is a great challenge for world-wide training centres, and in particular for those of the Latin American region, to understand the implications as well as the application of this approach, in mainly two dimensions: first, the design and development of educational curricula; secondly, the training of aviation professionals necessary to plan and carry out the appropriate teaching-learning processes. The challenge associated with this approach constitutes an important opportunity for ICCAE to keep acting as a leading centre for the investigation and implementation of aviation training techniques in the region.

2.4 In this same direction and according to its mission, ICCAE has improved and put into practice an integrated instructor's selection, training and accreditation system, in order to develop the best professional competencies on this area, such that the highest educational quality standards can be achieved and maintained in training the current and future regional civil aviation professionals.

### 3. DESCRIPTION

#### 3.1 General

3.1.1 Aviation industry training goes beyond a simple transmission of knowledge; instead, it is a complex teaching activity that requires a global understanding of the educational phenomenon as well as the knowledge and experience of the different areas involved.

3.1.2 According to this frame, the sole command of the profession does not provide enough elements for an optimal teaching performance. In addition, it requires training in the application of teaching methods and practices, the dynamic use of technologies applied to education and knowledge of social and psychological elements that influence the adult training process or andragogy, within the context of civil aviation.

3.1.3 In summary, by taking into account the dynamic and complex environment of aviation industry, as well as the highly sophisticated competence level required and the application of new teaching approaches and methodologies, the training personnel should adjust to the following requirements:

- a) training and experience in aviation specialisation;
- b) constant updating, preferably active in his/her own professional area;
- c) vocation for teaching and facilitation of learning processes;
- d) development of teaching-learning competencies as a process, by means of initial training, continuous updating and self-practice;
- e) command of the competency-based training approach;
- f) constant updating in modern teaching and adult professional training techniques; additionally, application information and communication technologies; and
- g) professional ethics.

### 3.2 **Integral teaching training system for aviation professionals**

3.2.1 Selection of instructor applicants. Within the frame of the initiative applied by ICCAE, applicants first need to undergo a selection process to verify compliance with minimum professional and work requirements, as well as with the generic competences established for an appropriate teaching performance. This selection process allows to define applicant's suitability to participate in the training programme at different levels and to be progressively included in the appropriate courses according to the competencies shown and the accreditation requirements as an initial, proficient and specialised instructor. The system also includes the criteria for selecting applicants, based on the specific instrumental competencies related to the aviation training practices.

3.2.2 Training and development of teaching skills programme. The central phase of the system corresponds to the integral aviation professional's teaching training programme put on a Central American level. This programme has been designed under the competency approach that is consistently applicable to all the aviation training system developed by ICCAE, which comprises 3 stages: initial, continuous and specialised training.

3.2.3 The system is oriented towards providing instructors with training, such that they can be capable of linking teaching aspects with real and particular situations, associate theory with practice and systematically improve the teaching-learning processes, among other activities. The programme takes into account updating processes that will be developed through experience and continuous improvement, in order to facilitate the instructor's training and development throughout his/her professional and teaching career. Each one of the instructors shall show the competencies acquired and then be included in the training stage as appropriate, according to both institutional and individual objectives, by applying the criteria of flexibility, appropriateness, laterality and quality.

3.2.4 The curricular structure shall be designed in integrated modules to provide training on course completion competencies, based on a training programme according to the difficulty and complexity levels. A competency-based instructor's training will imply the provision of course syllabi according to the needs of the aviation sector. Training shall also be focused on performance indicators and the record of evidences in particular situations.

3.2.5 Training will include progressive deepening of teaching competencies based on an initial training, such that diverse methodologies will be included according to the objectives and student's characteristics. The system shall be based on the pedagogical, teaching and technological perspectives, depending on the instructor's competencies required at different levels. This system also helps improve instructors' practice in all their professional areas, for both face-to-face training sessions and distance training, through the appropriate teaching training modules. This will imply teaching innovations and the use of teaching resources.

3.2.6 As a following stage of continuous and specialised training, these courses will be complemented with teaching training workshops on specific short-term topics, as well as with other events such as those defined by the TRAINAIR *PLUS* methodology and the e-learning and b-learning modalities.

### 3.3 **Certification**

3.3.1 The certification process shall provide evidence that participating aviation professionals have the required competencies and are able to apply the different stages of the teaching-learning process, including the stages of training planning, design and preparation of teaching materials, communication and interaction during course development, comprehensive learning evaluation, transversally including professional ethics and observance of administrative processes linked to the training cycle.

3.3.2 The system will take into account the validation of the teaching competences acquired from other training contexts and the certification of both teaching competencies and teaching techniques, according to the field of aviation specialisation. Accreditation will aim to ensure that instructors are suitable in relation to an education based on the quality standards set out, so that the teaching competencies of aviation professionals working as instructors can be constantly updated. This system will allow the accumulative recognition and accreditation of the competency units acquired by the instructor through job practice or formal and informal learning.

3.3.3 The instructor's certification shall recognise the effective training competencies of aviation professionals for a specific period of time and in a renewable pattern. This can be achieved through a constant assessment process to identify areas of improvement and plan the complements that each participant should take. Instructors shall be required to provide training regularly, such that they can maintain and credit competencies in this field and show performance improvements, mainly those related to course design, preparation of teaching materials, teaching and learning evaluation.

## 4. **CONCLUSIONS**

4.1 The instructor's selection, training and accreditation system will be beneficial for civil aviation due to the effort it implies for the sector to keep trustworthy qualified personnel available and also because of the strengthening of organisational and institutional links among instructors, the ICCAE and all partakers involved in the process, thus developing training skills, abilities and competencies through a wide and innovative variety of methods, techniques and tools for the performance of their educational activities. This effort will lead ICCAE to be placed on a regional position as a referent in the task of training professional instructors in the aviation industry.

4.2 This instructor's training programme is a consistent, comprehensive and systematic proposal for training and developing long-term professional's teaching competencies, according to the vision of the institution's commitment to educational quality. This programme places the ICCAE as a referent to train aviation specialists committed to competency-based training, given the fact that these teaching performance standards are applicable to the whole spectrum of aviation fields in Latin American countries.

4.3 It is important to remark that the success of the process depends mainly on the support provided by COCESNA, Civil Aviation Authorities and other regional entities, as well as on the recognition of ICCAE's leadership and regional competence to train instructors in the aviation industry, to ensure the proper application of the competency approach training and best practices in training events of all the aviation industry.