



中國民航大學  
Civil Aviation University of China

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*Face the Aviation Industry in the Future  
Thinking and Exploration on the Education and Training  
of Aviation Professionals*

**Dr. WU Tongshui**

**President of Civil Aviation University of China**



**1. New technology requires new engineering professionals.**

**CDIO model is important in training new professionals.**

**Development trends of civil aviation industry:**

- 1) Green Engine**
- 2) A/C with composite material**
- 3) Electronic Function**
- 4) Diagnose and Conditioning Monitoring Management**
- 5) Comprehensive Solutions**
- 6) Transparent Supply Chain**



## **Three changes of education and training in the 20<sup>th</sup> Century:**

- **In late 19<sup>th</sup> Century and early 20<sup>th</sup> Century, learning from practice and Dalton Plan strengthen on students' experience and participation;**
- **In 1940s, the traditional classroom teaching focusing on disciplines' structure;**
- **From 1980s, engineering education concentrates on training the students with idea of “great engineering”.**





As for the **Next Generation Aviation Professionals'** training, I think it is the still the development and evolution of the 3<sup>rd</sup> change training model in late 20<sup>th</sup> Century, while **CDIO model** which has been put forward early this century is very important for us.

**CDIO Engineering training model** is the fruit of international engineering training and education revolution during recent years. CDIO consists of **Conceive, Design, Implement, and Operate**. It takes the product life cycle as a platform to have the students participate from its R&D till the operation. The students have to study the engineering courses actively, practically and know the links inside.





## 4 levels of engineering graduates' ability according to CDIO syllabus:

- **Personal Professional Ability and Quality ;**
- **Necessary Technology Knowledge and Inference Ability;**
- **Teamwork and Communication;**
- **Systematically conceive, design, implement and operate  
in society and enterprises**

**CDIO well integrates discipline education and engineering practice training together**





**CDIO syllabus and standard make a bridge among professional goal, detail training input, process and result, which will be the guideline of how to implement CDIO model in the profession.**

**2 core questions:**

- (1) What kind of knowledge, ability and attitude should an engineering graduate possesses after his graduation? About what level?**
- (2) How can we well make sure that the students have already studied such knowledge and ability?**





## 2. Education and Training of “Citizen of the World” under Aviation Liberation

- Facing the new development of society, science and technology, and economy in the new Century, facing the globalization in the aviation transportation: aviation liberation, our professional training should give some response: train the “Citizen of the World” according to the requirements of the era.
- UNESCO official remarks: “Failure of education of this century is not in science, language and mathematics teaching, but in promoting peaceful coexistence among human beings, and in exploring personal and social potential ability for the full equal development.”



## **Strengthen Internationally Understanding Education and Multicultural Education**

- **Broaden their horizons**
- **Improve Understanding**
- **Foster consensus**
- **Cultivate peaceful coexistence behavior**

**Citizens of the world with an international horizon and concentrating on harmony world will be educated under aviation liberation, which will meet the requirements of the professionals with cross cultural communication and exchange, and the ability of management.**







### 3. Work together to educate and train the future leaders of this industry

#### Situations we are facing now:

- Fierce Competition
- High Cost
- Congest Airspace
- Weak Profitability
- Pressures from Environment



## **Suggestions:**

- 1. Organizations or associations need to be established in ICAO, formed by the leaders and experts from aviation enterprises, governments, and universities, which will formulate and provide related standards and suggestions;**
- 2. Establish a Aviation Universities' President Seminar which will provide an environment for the exchange and communication and the Seminar can be hosted by the university of aviation characteristics in each country in round.;**
- 3. Improve the students' exchange internationally . Especially, we can have the “ Future Leader Camp” hosted by the university of aviation characteristics in each country in round . The participants should be selected and recommended by the university. International courses , team work training, interns in different countries' enterprises and government will train their leadership.**





*Thank you!*

