

# *Analysis on bilingual teaching of aircraft system course*

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**Abstract:** "Aircraft System" course is one of the most important core professional courses in the process of aviation theory education for civil aviation flight cadets. High level course teaching quality is crucial to pilot training. With the deepening of economic globalization, English, as one of the important languages used in globalization, has a high demand on the English listening and speaking ability of international airline pilots. Based on the goal of "improving the comprehensive English ability of flight cadets", this paper analyzes the necessity and feasibility of carrying out "bilingual" teaching, and discusses the key links of implementing "bilingual" teaching in aircraft system courses and several problems that should be grasped.

## 1. Introduction

According to the requirements of ICAO for pilots, they should at least reach the ICAO4 level. Icao and its member states increasingly emphasize the importance of English, and the number of flight accidents and accident signs caused by language communication difficulties increases year by year. It can be seen that ICAO has more and more strict English requirements for pilots. To train airline pilots with international vision is an important part of outstanding aviation personnel training. It is very important to strengthen the construction of bilingual teaching system to improve the quality of flight personnel training. This paper takes one of the core courses of flight technology major - "aircraft system" course as an example to discuss the implementation of "bilingual" teaching.

## 2. Necessity and Feasibility of Implementing "Bilingual" Teaching in Aircraft System

Our school is the only private undergraduate college in Guangdong Province that is assigned by the state to set up flight technology major. According to the requirements of International Civil Aviation Organization for pilots, they should at least reach the ICAO4 level. International Civil Aviation Organization and its member states increasingly emphasize the importance of English, and the number of flight accidents and accident symptoms caused by language communication difficulties is increasing year by year. It can be seen that the International Civil Aviation Organization's English requirements for pilots are becoming more and more strict. To train airline pilots with international vision is an important part of outstanding aviation personnel training. It is

very important to strengthen the construction of bilingual teaching system to improve the quality of flight personnel training<sup>[1]</sup>.

Flight students of the curriculum is flying aircraft systems technology professional "required courses", through the course of learning, to make the students master cabin equipment use, for subsequent commercial machine conveyor and routes to prepare a driver's license, for its grow into qualified general pilot air lay a good theoretical basis, for safe flight to provide necessary theoretical knowledge. It is an objective need for pilots to adopt bilingual teaching in Chinese and English in course teaching. Bilingual teaching, on the one hand, enables pilots to often enter the situation of English listening and speaking, which plays an important role in improving pilots' English listening and speaking ability and effectively overcoming the language barrier of communication with foreign pilots. On the other hand, it can strengthen the pilot's "aviation English" level, and lay a necessary foundation for the pilot to read professional English materials, get familiar with the airborne equipment (at present, China's civil aviation aircraft are mainly Airbus series and Boeing series, and the equipment name, airborne system and voice service are all in English), and improve the business ability<sup>[2]</sup>.

### **3. Key links in implementing "bilingual" teaching of aircraft system course**

#### **3.1. Dealing with the Relationship between Bilingual Teaching and English Language Teaching**

Bilingual teaching cannot be equated with English language teaching. We must correctly understand and handle the relationship between bilingual teaching and English teaching. "Bilingual" teaching is essentially different from English teaching: "Bilingual" teaching mainly refers to the teaching of non language subjects in which English is used in whole or in part. "Bilingual" teaching does not belong to the teaching of language discipline, but takes English and mother tongue as the means to teach professional knowledge of the discipline; English teaching refers to the teaching activities of learning the "English" language through the education system. The purpose is to help and train students to master English language knowledge and skills, and solve the basic problems of students' language. English teaching belongs to language teaching. Therefore, in the process of "bilingual" teaching, it is not necessary to improve the proportion of English language use in order to reflect the form of "bilingual". In a sense, the "bilingual" teaching of the aircraft system course is more appropriate to the teaching of the "Civil Aviation English" course<sup>[3]</sup>.

#### **3.2. Continuously improve the professional ability and level of "bilingual" teachers**

Improving the professional ability and level of bilingual teachers is of great significance to the teaching effect of bilingual teaching. Professional knowledge and English ability are the necessary knowledge system for bilingual teachers, which requires them to have a relatively comprehensive knowledge and ability structure, including language application ability, information acquisition ability, teaching monitoring ability and teaching method application ability. The position of the core course of "aircraft system" in the flight technology major determines the necessity of adopting "bilingual" teaching in this course. The selection and training of teachers with profound professional ability in aviation theory (especially familiar with aircraft system) and English teaching ability is the top priority in the construction of the flight technology major and high-quality courses.

As the flight technology specialty is a niche specialty with obvious professional limitations, the base of talent selection is small. Therefore, the problem of teachers is the bottleneck that restricts the development of "bilingual" teaching of flight technology courses. Profound professional knowledge and profound oral English expression ability are two conditions that bilingual teachers

must have, and they can not be biased, otherwise it is difficult to be competent for professional courses of "bilingual" teaching.

### **3.3. Building a necessary system of "bilingual textbooks" and a rich "bilingual" database**

The original English textbooks of high level can be selected as the main teaching materials. The use of classic textbooks compiled by foreign experts can not only understand the cutting-edge developments and new knowledge in the field of professional development, but also introduce some advanced educational concepts. Self compiled bilingual textbooks are the most targeted way to implement "bilingual" teaching. In the early stage, on the basis of learning from the original English textbooks, according to the characteristics of students, curriculum characteristics, teaching requirements, etc., we can compile bilingual handouts, gradually improve the level of compiling textbooks, and finally form high-level self-made textbooks.

Besides the main teaching materials, the auxiliary teaching materials and materials should not be ignored. The Chinese translated version of the original English textbook is of great significance to teaching and students' self selected review, and is an important learning material. English textbooks related to the course can also be used as supplementary materials for students<sup>[4]</sup>.

### **3.4. Pay attention to teaching students in accordance with their aptitude and choose appropriate teaching methods reasonably**

To some extent, the quality of students determines the difficulty, quality and effect of bilingual teaching. Therefore, we must pay attention to teaching students in accordance with their aptitude. For teachers, "understanding" the original English textbooks and mastering the professional content in both Chinese and English are the first goals of bilingual teaching teachers in the course of lesson preparation. Teachers should work hard to improve their ability to use English. We should write teaching documents in both languages and write on the blackboard in both languages. We should attach importance to the introduction of English video cases in teaching and use various media to teach<sup>[5]</sup>.

### **3.5. Broaden bilingual teaching channels**

We can establish a "bilingual" teaching system based on multimedia and network, make full use of the technical advantages of computers, and use various forms of multimedia courseware and network teaching system to carry out all-round and three-dimensional teaching for students. The teaching classroom of the aircraft system course is extended beyond the classroom to cultivate students' autonomous learning ability.

## **4. Several Points for Attention in the Implementation of "Bilingual" Teaching in the Course of Aircraft System about when the course is offered**

At present, flying cadets generally adopt the "2.5+1.5" training mode. The aircraft systems course needs to be timed just right. It is necessary to consider not only the course learning requirements stipulated in the talent training program, but also the gradual learning of students' knowledge. Aviation Professional English should be the pilot course of aircraft system course. Flight English for Professional Purposes courses can be offered in the first semester; therefore, aircraft systems courses can be offered in the second semester or later.

#### **4.1. Time of course**

At present, the "2.5+1.5" group training mode is widely adopted by the flight technology specialty. The opening time of aircraft system courses shall be reasonably arranged. While meeting the course learning requirements specified in the talent training program, we should pay attention to the gradual learning of students' professional knowledge. The aviation professional English should be the pilot course of the aircraft system course. The flight professional English course can be offered in the first semester, so the aircraft system course is suitable to be offered in the second semester or later.

#### **4.2. The organization and development of classroom "bilingual" teaching activities**

Teachers should pay close attention to students' learning details, communicate with students in time and encourage students to try to answer questions in English. Teachers can give each student to create a class participation in English interactive files, real-time record each student's performance in class. To those students who can actively participate in the interaction, we should give them praise in time, strengthen their confidence in bilingual learning, and arouse their interest in English learning, teachers should communicate with them in a timely manner after class and find ways to encourage students to participate in class interaction<sup>[6]</sup>.

#### **4.3. Course teaching progress**

The adoption of "bilingual" teaching is bound to have a certain impact on the teaching progress, and it may be difficult to complete the teaching tasks as planned. When teaching in full Chinese, teachers and students have already felt the difficulty of the aircraft system course and the tense class hours. However, "bilingual" teaching requires a large amount of professional English in the classroom, and students' listening comprehension is generally lagging behind. These are bound to affect the teaching progress, but the teaching plan must be completed. How to deal with the contradiction between the limited class hours and the slow teaching progress needs teachers to focus on thinking. The common solution is to make scientific choices about the teaching content, and focus on teaching important knowledge points in the classroom. For non key content that students are capable of self-study, arrange students to self-study appropriately, and check the effect of students' self-study through homework, test, etc.

#### **4.4. Supervision and management of curriculum teaching**

In order to grasp the opening situation of the bilingual course, the teaching supervision experts should listen to the lessons in the classroom and make a random survey of the teaching effect of the students. They should know in detail the information of the bilingual course in terms of foreign language teaching hours, textbook selection, multimedia teaching effect, students' listening reflections and requirements, and feed back the collected information to the bilingual course teachers and teaching management departments in a timely manner. This can promote the teaching quality of bilingual courses. In view of the complexity and difficulty of the implementation of "bilingual" teaching, schools and colleges should not only make progress in strengthening the inspection and supervision of the construction of bilingual courses, but also establish an effective "bilingual" teaching incentive mechanism, giving teachers greater preference in the calculation of "bilingual" teaching hours, the payment of course fees and bonuses, further education and training. The ability of bilingual teaching should be taken as an important parameter in terms of teacher qualification, appointment of professional and technical posts, and evaluation of excellence, so as to

stimulate the enthusiasm of teachers to carry out bilingual teaching <sup>[7]</sup>.

## 5. Conclusions

The aircraft system course plays an important role in the training of flight cadets. To lay a solid foundation for the course of aircraft system for pilots is of great significance to the training of qualified application-oriented civil aviation flight talents facing the world and the development of civil aviation in China. Based on the training of application-oriented talents, the practice of the "bilingual" teaching reform of the aircraft system course for flight cadets is conducive to improving the comprehensive quality of flight cadets and promoting the all-round and healthy development of the civil aviation industry.

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