

Research on Teaching Content and Teaching Mode of Aeronautical Power Equipment Course Abroad

-- Take IASCO Aeronautical School as an Example

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Abstract

The seamless connection between domestic aviation theory courses and foreign flight training courses is a hot topic in pilots training at present. By studying the teaching contents and modes of foreign aerodynamic power courses, this paper summarizes its advantages, and provides reference for the teaching reform of domestic aerodynamic power plants courses from two aspects: deepening the assessment reform of aerodynamic power plants courses and implementing the combination of theory and practice. At present, a large number of domestic pilots study flight theory knowledge at home, take part in flight training abroad, and return to China to change their licences after obtaining the pilots licences in the training country. Therefore, strengthening the research on foreign aeronautics courses will play a positive role in improving the training effect of the trainees.

Keywords

Teaching Content, Teaching Mode, IASCO.

1. Teaching Contents of Aviation Power Device Course

In IASCO, according to different flight stages, the course of Aviation Power Device takes part in the engine chapters of the pilot operating manual (POH) system of aircraft as the main content for the ground course. The participants personal and instrumentation phases are completed in the Cessna 172R aircraft. The course of aerodynamic power installation is mainly about the engine of Cessna 172R aircraft. It covers the type, type, maximum power, working principle of the engine used by Cessna 172R, as well as some corresponding extended knowledge, such as the four strokes of piston engine, the knowledge of mixing ratio, and the knowledge of engine. Even the manufacturer of the engine needs to know. For example, Beech Aircraft Dukes (BE-76) mainly refers to the POH of Dukes BE-76 to learn and master the engine model, type and working principle of Dukes BE-76 aircraft. For Kingair C-90, it mainly describes several types of turbo-engine, its working principle, main components and their functions, and focuses on the relevant contents of turboprop aircraft.

2. Teaching Mode of Aviation Power Plant

(1) Teaching in small classes as the main body. In the classroom of IASCO Aeronautical School, it is very difficult to see a large number of students crowded into a small room to teach, full of noise, desks full of books, teachers speaking on the top, students speaking below and so on. What you see is that students in the self-study room are always quietly reading or discussing problems in a low voice. Teachers in the classroom teach at the lectern, and students listen carefully below. In the cabinet beside the corridor, uniform flight backpacks are neatly

arranged. All the signs are inseparable from the teaching model of IASCO Navigation School. One of them is the teaching mode with small classes as the main body. IASCO Aviation School is divided into a small class according to the same company or the same batch of students, each class has about 20 students, each small class has a responsible monitor. Each group will be arranged to have ground lessons in the same classroom at the same time. The ground lesson teacher will inspect the attendance of the students and take it into account in the assessment results of the students. The ground theory course of IASCO Aeronautical School is ahead of the flight training course. The purpose is for the students to better understand the knowledge, better integrate the theoretical knowledge with flight practice, and finally realize the application of the knowledge.

(2) Active learning, students are the masters of the classroom. IASCO classroom is lively but not noisy, active but not confused. The navigation school encourages students to express their views boldly. If they have different opinions about what the teacher said, they dare to question it. The teacher will also actively guide the students and fundamentally solve the students' doubts. In class, the students have different opinions. The teacher allows the students to express their opinions in front of everyone, and then discuss them together, and finally reach a consistent conclusion. Sometimes, students will play the role of teachers and give lectures to other students in front of the classroom. Because of the differences in language, when confronted with more complex, we do not understand the teacher's explanation, the teacher will open Google translation, translate English into Chinese, in the form of Chinese to explain to you, although those Chinese readings are very stiff, but the students suddenly realized, immediately solved the doubts in their hearts, lively and interesting. At IASCO Aircraft School, every trainee's attitude towards learning is serious. Every day when we come home from school, we will take the initiative to take out textbooks, review the content of today's study, or brush up the questions to meet the coming exam. The life of learning to fly is not easy. Today, I just passed a certain stage of the exam. The next day, I prepared for the next stage of the exam. It's so cyclical. Although we face a lot of pressure every day, this kind of life is very full, and we will not feel that we are wasting our youth. Everyone learns actively, accepts new knowledge actively, encounters problems that they do not understand, and the collective discussion in a dormitory often occurs. This invisibly forms a kind of cohesion. You catch up with me, urge each other, while acquiring new knowledge, you have a strong sense of enrichment.

(3) Humanized punishment based on learning supervision. Unlike other aviation schools, which mainly punish students with fines, IASCO aviation schools are more humane and more acceptable to students. In IASCO, if a student makes a disciplinary mistake, the school will add an extra lesson to the student and have a special person to take care of it. IASCO School calls it "Study Hall". In foreign aviation schools, students are only allowed to speak English, and any other language is forbidden. Once they are caught speaking Chinese, they will be punished by a section called Study Hall. In fact, the ultimate goal of this method is to urge students to speak more English and dare to speak English. Some students dare not speak English loudly because their English level is not high. Little wonder, only dare to open your mouth, speak more and practice more, can you really improve your spoken English level. In addition, Study Hall is not limited to students who can only learn and speak English in this lesson. In this lesson, students' learning content is free. They can practice English and learn professional knowledge. The navigation school has special teachers in the classroom and can answer students' questions at any time. On the one hand, this kind of punishment can make students realize their mistakes and pay a price for them. (Study Hall usually means that you should continue to study after the last class in the afternoon or on Saturday morning, when others rest.) On the other hand, Study Hall can help students improve their self-study ability and solve their doubts in time, killing two birds with one stone.

3. Advantages of This Teaching Mode

(1) The efficiency of classroom teaching is high. With small classes as the main body, the problem of inefficiency in class has been solved to a great extent by the efficient classroom in which everyone participates. By participating in the discussion of the topic, the students not only have exercised their oral level, but also have a new understanding and understanding of knowledge. Small class groups are more conducive to communication and mutual understanding between teachers and students. In the teaching of IASCO, teachers are not only teachers, but also good friends of students. Students often invite teachers to the apartment as guests, fully understand each other, and establish close friendship. Good teacher-student relationship ensures the efficiency of the classroom. Students with poor English are not afraid to participate in communication because of their timidity, and students with doubts are not afraid to ask questions because they are afraid of teachers. This kind of relationship between teachers and friends not only helps students to learn theory, but also promotes the harmonious relationship between teachers and students, and solves the problem of low efficiency in class.

(2) The combination of theory and practice. The curriculum of IASCO half-day theoretical training and half-day flight training has well practiced the principle of combining theory with practice. Speaking of aerodynamic power devices, teachers will bring propellers, cylinders, pistons and other components to the classroom, so that students can personally see the key components of the engine structure, so that students can deeply feel the aircraft as a systematic and comprehensive machine, enhance students interest in learning. Through the flight training course, the trainees can further apply what they have learned, combine theory with practice, enhance their understanding of power plant and improve their driving skills through the theory they have learned.

(3) Focus on training students autonomous learning ability. IASCO Aeronautical School pays more attention to the cultivation of learners autonomous learning ability besides providing ground course teachers with rich experience and high teaching level. IASCO Aeronautical School will assign students homework after class so that they can study and finish their homework by themselves. In addition, the aviation school did not increase the class 2) Combining theory with practice. With the help of the Aircraft Power System Laboratory, pilots can deepen their understanding of the theory of aerodynamic power devices by observing the actual engine. We can regularly carry out the practical course of Aero-Power plant, guide students to visit the Aero-Power plant laboratory, relying on the existing piston engine, turbofan engine, turbojet engine and so on in the laboratory, so that students can have a more direct and genuine sense of the Aero-Power plant, and help them better understand the theoretical knowledge.

Reference hours for the private business etiquette theory examination. All these examinations were learned by the students themselves. The aviation school only provided a set of simulated test questions system. All the preparation process was completed by the students independently, which exercised the students self-study ability very well.

(4) A complete assessment system. As the most developed country in aviation industry in the world, the United States has already possessed a set of perfect pilot assessment system, the Pilot Certification Criteria, which includes the comprehensive assessment criteria of flight including the problems of Aeronautical power plant. In the case of IASCO, there are more than ten inspections in the private stage, including flight inspections. In the whole process of learning and flying, the students mastery of the contents of aerodynamic devices is systematically and comprehensively assessed, along with classroom performance, ground class stage test, oral test with flight instructors and in-school stage inspection.

4. Enlightenment to Us

Deepening the assessment reform of aviation power plant course and enriching the assessment methods. The reform of assessment mode should be strengthened, and the final examination results should not be taken as the sole criterion for judging the mastery degree of a trainee aeronautical power plant course, and efforts should be made to make the assessment diversified, hierarchical and comprehensive [5]. Through enriching assessment methods, students are urged to study hard and lay a solid foundation. In addition to examinations, students can also be added to the classroom lecture link, according to the performance of the students, the lecturer points, and into the final assessment results. In addition, English elements can also be added to the classroom, comparing the various parts of the aeronautical power plant with English, which can not only exercise the students English level, but also lay a good foundation for training abroad.

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