

Strategies of Civil Aviation Pilots Cultivation in the Perspective of Applied Talent Training Concept

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Abstract

Civil aviation pilot is one of the most challenging occupations in the contemporary society. Civil aviation pilots not only play a critical role in the aviation industry, but also contributes a lot to the social development. It's self-evident that applied civil aviation pilots cultivation is of significant importance. On the basis of analyzing the training model and professional characteristics of civil aviation pilots, this paper summarizes the basic requirements of the applied talents training concept to the civil aviation pilots cultivation, and probes into the training strategies of civil aviation pilots from the perspective of applied talents training concept.

Key words: Applied talents; Civil aviation pilot; Concept; Cultivation

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INTRODUCTION

In As one of the core components in modern society, civil aviation has become a powerful and strategic industry. In the process of civil aviation development, the quality of civil aviation pilots has a direct and significant impact on flight safety and social development. With the rapid

development of civil aviation industry, the traditional model of training supply can no longer meet the demand of the fast developing aviation market and international competition. Under this background, it is of significant importance to expound the current civil aviation pilots training model, analyze the advantages of applied talent training concept, and put forward fresh strategies in the perspective of applied talent training concept in order to cultivate more applied civil aviation pilots.

1. CIVIL AVIATION PILOTS CULTIVATION MODELS

The major ways of civil aviation pilots cultivation are air force transfer, aviation academy training, social recruitment and so on. Among all these training models, there are two prominent forms, one is the integration of license education and academic education, the other is the model with license education as the core. At present, the civil aviation pilots cultivation in China mainly adopts the first training model, which mainly recruits senior high school graduates. After passing the physical examination and concerning checks organized by the aviation authority, these air cadets become "formative flight cadets". They can apply for aviation-related majors in aviation colleges or universities, and then they can be enrolled into aviation-related majors through the college entrance examination. In addition, the source of this model also includes sophomores or juniors enrolled from colleges or universities, who are known as "undergraduate flight cadets". After completing physical examination, political examination and English examination, they can also enter relevant aviation colleges and universities for professional knowledge learning.

Civil aviation pilots are trained by institutes offering flight technology specialty. Their courses setting and operation concept are closely related to the characteristics of flight. The aviation colleges or universities mainly train

competent and advanced flight personnel who possess solid foundation of aviation theory knowledge and professional flight skills to accomplish flight missions. The curriculum system not only meets the requirements of the basic education system of the national undergraduate course, but also meets the requirements of the civil aviation laws and regulations for flight certificates. Therefore, before graduation, the flight cadets should obtain not only the civil aviation pilots' Private, Commercial, Instrument and Airline Transport Pilot License (ATPL) for civil aviation personnel, but also the International Civil Aviation Organization level Four Licence (ICAO-4). At present, many civil aviation training units adopt the way of joint training at home and abroad, completing theoretical study at home and flight practice training abroad. This joint training model has been trained a large number of outstanding civil aviation pilots.

2. INTERPRETATION OF APPLIED TALENTS TRAINING CONCEPT AND CIVIL AVIATION PILOTS REQUIREMENTS

2.1 Interpretation of Applied Talent Training Concept

The concept of applied talents and academic talents is relative. Applied talents refer to a type of specialized talents who can apply their professional knowledge and skills to the professional social practice. With the development of higher education, the concrete connotation of technical or professional talents who are mainly engaged in first-line production is developing continuously and the applied talents demand is increasing dramatically.

Compared with other types of talents cultivation model, the applied talents training model has its own characteristics. Firstly, the knowledge structure is designed around the actual needs of first-line production. In the basic work, such as curriculum design and textbook construction, emphasis should be placed on the basic, mature and applicable knowledge, while the intense pursuit of the discipline system and the high attention to the frontier unknown field are neglected. Secondly, this cultivation model aims at the practical needs of first-line production, with particular emphasis on proficiency and flexible application of basic knowledge. In comparison, there is no higher demand for scientific research and development capabilities. Thirdly, the training process of applied talents emphasizes the combination with the production practice, and pays more attention to the practical cultivation links, such as experiment conduction, production practice and so on. This is usually regarded as an important cultivation activity for participants to pass through relevant professional knowledge check and gather relevant professional skills. However, there is generally

no high requirement for graduate design and dissertation, which are paid special attention in the model of cultivating research-oriented talents.

In short, applied talents concept mainly focuses on applied knowledge rather than scientific discovery and creation of new knowledge. The society has extensive demand for this kind of talents in the process of social industrialization and information era. It should be the applied talent training concept which must be attached importance in popular higher education.

2.2 Interpretation of Applied Civil Aviation Talents Requirements

The cultivation of applied civil aviation pilots can not simply realize the transformation from academic achievements to realistic productivity. The cultivation should not only combine the professional knowledge in different fields, but also innovate the thinking of invention and creation in order to realize the transformation. The cultivation of application-oriented civil aviation pilots requires a variety of abilities, such as the creative ideas to analyze and solve flight problems, the innovative thinking to conduct flight practice, the active expansion of solid professional theory and perfect knowledge framework, as well as the logical analysis of the latest research results in the aviation field. Based on this cultural background, the concept of applied talents has endowed civil aviation pilots with new connotations and put forward the requirements of capability and knowledge structure for the training of flight professionals.

In terms of capability structure, the requirements of applied civil aviation pilots mainly include three aspects: the ability to acquire knowledge, the ability to apply knowledge and the ability to innovate. In the aspect of acquiring knowledge, the applied civil aviation pilots should have the ability to acquire, renew and expand knowledge. In the aspect of applying knowledge, the applied civil aviation pilots should have the comprehensive application ability to use the theoretical knowledge learned to guide the flight training practice. At the same time, they should have good flight skills, cockpit resource management capability, crew coordination capacity, special circumstances response capacity, emergency situation awareness and so on. In the aspect of innovation ability, the applied civil aviation pilots should have the ability to think independently and make tentative exploration and research on front aeronautical technology.

As for the requirement of knowledge structure, the concept of applied talents requires civil aviation pilots to master a wide range of knowledge so as to make the knowledge structure comprehensive and complete. The knowledge includes foreign languages, computer and information technology applications, literature retrieval, methodology, scientific and technological methods, philosophy, sociology, mechanics, electrician and electronics, management, aircraft structure, aerospace overview, instrumentation procedures, aviation

regulations, air control, human factors, flight simulation techniques, etc.

3. STRATEGIES OF CIVIL AVIATION PILOTS CULTIVATION IN THE PERSPECTIVE OF APPLIED TALENT TRAINING CONCEPT

The cultivation of applied talents is an inevitable demand of social development and one of the important links in the development of aviation industry. In view of the current professional characteristics of civil aviation pilots and the orientation of the applied personnel training, it is of great practical significance to apply the concept of applied personnel training throughout the process of civil aviation pilots training and actively explore the aviation education with innovative consciousness.

3.1 Draw Advanced Lessons from Experienced Countries and Integrate Vocational Training and Academic Education Organically

In most western countries, the civil aviation pilots cultivation is mainly based on vocational education. If ordinary people want to become a civil aviation professional pilot, they generally need to go through the following three links: getting a flight license, accumulating flight experience and take part in airline recruitment. Before entering the airlines the pilots usually experience a long period of vocational and professional training, making the pilots' overall ability higher. The training of civil aviation pilots in China pays attention to the education of academic qualifications and puts forward various restrictions on vocational training, which seriously restricts the development of civil aviation. Therefore, it is imperative that civil aviation education and vocational training should be carried out simultaneously. On the one hand, in the civil aviation cultivation, advanced lessons should be learned from the experienced countries; On the other hand, the openness of civil aviation training market and the effectiveness of civil aviation education quality must be guaranteed in the perspective of applied talent training concept. Only in this way can the overall quality of civil aviation pilots cultivation be improved and the long-term development of civil aviation industry be promoted.

3.2 Carry Out Comprehensive Reform of Cultivation System and Improve the Market Adaptability

It is quite necessary to explore and reform the existing civil aviation pilots cultivation model and enhance its adaptability to the aviation market on the basis of improving the comprehensive quality so as to cultivate applied civil aviation pilots. First of all, a complete aeronautical education system should be formed according to the standards of aviation regulations

and strict requirements in the process of constructing the cultivation system. Secondly, it is necessary to strengthen the cultivation model reform and realize the organic transformation and synchronous modification of different models by actively integrating with international standards. Thirdly, the final integration of license training and academic education should be realized step by step by strictly adhere to the training standards. Meanwhile, the aviation market should be regarded as an important benchmark to enhance the pilots' market adaptability. On the basis of completing basic training, the standards of airlines and aviation training schools should also be integrated into the training system, and regard the degree of comprehensive ability of pilots as the important criterion for qualified personnel.

3.3 Push Forward Infrastructure and Laboratories Construction to Upgrade the Practical Operation Ability

Aircraft simulator training can assist pilots continuously carry out routine simulated flights, better master the basic operating procedures of the cockpit, purposefully simulate flights under special circumstances, greatly improve the flight skills and further familiarize themselves with various operations. The combination of theory study and simulator practice can also improve the flight training efficiency and ensure flight safety. Therefore, in order to improve the operation ability, the civil aviation pilots cultivation must push forward the construction of infrastructure, introduce advanced aircraft simulator and other high-end scientific and technological equipment, and realize the integration of theory learning and practice training. At the same time, efforts should be made to promote the construction of various related professional laboratories, such as radio laboratories, gyroscopic inertial navigation laboratories, civil aviation digital maintenance CBT laboratories, flight control system laboratories, and atmospheric data laboratories, aircraft engine laboratory, avionics and electrical laboratory, automatic control principle laboratory, communication principle and sensor laboratory to improve the cultivation and practical operation ability.

3.4 Further Promote the "Theory Learning--Flight Training--Industry Demand" Integration to Improve the Teaching Pertinence

Firstly, the content of radio communication dialogues in real environment should be incorporated into the delivery of professional aviation English and radio telephony communication, so as to realize the cultivation mode of "integrating theory with practice". The civil aviation pilots cultivation should combine the linguistic teaching method with the practice training method in the non-linguistic context, completing the full integration of theoretical study and practice and realizing "learning by doing", "doing by learning" and "cultivating by doing". Secondly, bilingual teaching framework should be promoted with

every effort. Aviation electronics, flight procedures, aeronautical charts, flight principles, air navigation and other aviation courses should be constructed as bilingual courses so as to improve the theoretical learning level and further integrate the theoretical learning with flight training. Thirdly, aviation hardware and facilities should be strengthened and the cultivation pattern transformation reform of “theory and practice integration” should be promoted so as to better meet the integration requirements of “theory learning--flight training--industry demand”.

3.5 Expand Cooperation with Professional Aviation Institutions and Correctly Handle the Relationship Between Training Model and Training Objectives

Professional aviation institutions have advanced theories in many aviation fields, such as electronic research and development, aircraft principle design, hangar and base construction, CBT laboratory reform and administrative system settings. Expanding cooperation with professional aviation institutions can make the establishment of aviation institutions more reasonable, the construction of aviation laboratories more targeted, the allocation of flight instructors more professional and the scale of aeronautical development faster. This will effectively improve the training quality of civil aviation pilots and optimize the training objectives of applied talents. In order to train application-oriented civil aviation pilots meet the requirements of academic qualifications and civil aviation standards, the applied civil pilots cultivation should also correctly handle the relationship between training model and training objectives, put professional courses in a prominent position, properly adjust the relationship between professional compulsory courses, professional elective courses, practical courses, public compulsory courses and public basic courses, highlight professional characteristics, and realize the optimization of resources for applied personnel training.

3.6 Innovate the Cooperation Model and Narrow the Gap Between Talent Quality and Social Demand

Firstly, an entity-based cooperative education model can be established. To build an entity-based cooperative education model will comprehensively realize the application-oriented personnel training of “school--enterprise” alliance and “work--study” alternation by combining industry, education and research, and meet the objective requirements of social and economic development for civil aviation pilots. Secondly, cooperative education model should be innovated. In

the actual cultivation process, how to make the model of school running in cooperation with airlines to be practical is often a short board for the training of applied civil aviation pilots. Therefore, the cultivation should take “five docking” strategies (college docking industry, profession docking industry, curriculum docking post, certificate docking profession, teacher docking instructor) as the carrier and innovate the cooperation.

This cultivation model can make the combination of classroom teaching, practical training and on-the-job practice more closely, realize the seamless docking of civil aviation pilots from theory to practice, from school to post, and train talents to the society with “zero distance”.

CONCLUSION

To sum up, based on the concept of applied talent training and the unique characteristics of civil aviation pilot requirements, the civil aviation pilot cultivation is given a new connotation. In the new era, the cultivation of qualified applied civil aviation pilots has a great impact on the country development and society innovation. Therefore, exploring the strategies of civil aviation pilots cultivation from the perspective of applied talents training concept is bound to improve the overall quality of pilots cultivation in an all-round way and promote the development of the civil aviation industry.

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