Study on the Potential Safety Hazards and Countermeasures of Pilot Cadets in Flight Training

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Abstract: As the development of social economy, aviation is imperative for many people in daily life and various industries, which puts forward higher demand for aviation flight, as well as flight safety issues. However, there are many problems in this series of operations. With the continuous increase of civil aviation passenger flow, problems in flight safety are becoming more and more prominent. People are also increasingly concerned about the safety of transportation. Therefore, it is necessary to strengthen the safety of flight, strengthen the training of students, and cultivate students' safety awareness, so as to ensure the safety of people's travel and promote the prosperity of civil aviation.
***Keywords*:** pilot cadet, flight training, safety hazards, study on countermeasures

Introduction

With the rapid development of civil aviation in China, the demand for professional technical personnel is constantly expanding. Therefore, there is an urgent need to strengthen the training of the flight contingent, cultivate pilots who can maneuver the new type of aircraft, and export more talents for the aviation industry, based on which, it can better adapt to the development of aviation and improve the utilization rate of aircraft. For the safety of cadets and the development of people and society, they need to improve the safety of flight training. In this case, the relevant parties must strengthen the safety management of general aviation training to ensure the quality and efficiency of general aviation training.

1. The significance of safety awareness in teaching

In the teaching practice, great importance is given priority to the cultivation of students' awareness of flight safety, which will affect the life of the pilots of the aircraft and the financial security of the country. The consciousness of flight safety includes three aspects: flight safety cognition, safety emotion and safety concept. Cultivating students' awareness of flight safety can help students understand the characteristics of flight and various dangers of flight, so as to ensure the safety of flight and avoid violating rules. At the same time, a strong sense of safety is conducive for students to forming a good sense of safety and stable safety psychology. In the classroom teaching and training stage, instructors should use effective teaching methods to cultivate students' safety awareness, help students better understand and grasp flight technology, improve their own psychological ability, standardize flight operation, and ensure their own safety flight work in the flight career in the future[1].

2. Necessity of training of flight safety awareness in flight teaching

2.1 Occupational needs of cultivation of flight personnel

To ensure the safety of flight, we must constantly cultivate the students' safety awareness and ensure the safe operation of flight. Therefore, in training of the basic knowledge of pilots, it is necessary to strengthen the safety awareness of pilots, so as to better meet the training requirements of pilots and thus to avoid flight accidents.

2.2 The realistic need to achieve continuous security

In order to make the civil aviation industry to develop in a sustainable and healthy manner, we must strengthen the students' awareness of flight safety. Therefore, in theoretical learning and training, it is necessary to strengthen students' driving skills, cultivate students' safety awareness, and strengthen their understanding and mastery of basic theories. At the same time, the instructors should give frequent attention in encouraging students to learn to actively transforming the safety concept,so as to bear in mind the requirements for safe flight, so that they can serve the aviation industry[2].

3. Safety management risks in flight training

China Aviation Flight Academy, as a subordinate college of civil aviation enterprises, plays a great role in improving the quality of students and improving flight safety. Therefore, in the process of flight training, students should strengthen the training skills and techniques, but there are still some problems, and according to these problems are discussed.

3.1 Lack of understanding of theoretical knowledge

As many students and instructors believe that driving aircraft is a high-tech activity, so in the process of learning and training, it is inevitable to strengthen the study of the actual operation of the system, ignoring the basic theory of aircraft research. They think they concentrate on their studies just to increase their grades. Not only students and instructors, but also many lessons in flying and training fail to pay attention to the mastery of the theoretical knowledge of flight and thus, there is a lack of the meticulous arrangement of basic flight subjects. In this environment, many students learn the basic principles of flight by reading books on their own, and their understanding of flight is still superficial. At the same time, there is a phenomenon of "leakage of test contents" in the examination, for example, the common questions are presented in examinations in recent years, so that students can only rely on memorization rather than mastering, so that they can get quite high scores. To a certain extent, this is the reason why students do not pay attention to the basic theoretical knowledge, thus forming an vicious cycle.

Besides, it's important to remember that basic theoretical knowledge plays a big role in the actual operation of the flight. Through theoretical study, we can better understand the operation process of flight and master corresponding coping methods[3].

3.2 Risk problems caused by mechanical equipment problems during flight training

Unsafe state refers to the unsafe situation caused by poor quality of aircraft mechanical devices, poor maintenance or improper operation of aircraft equipment and machinery during the flight from takeoff to landing. All aircraft have some system defects in design theory, design conception and processing technology. At the same time, the energy consumption and quality reduction caused by aging, erosion and consumption of aircraft are inevitable in the use of aircraft, and there are great risks in some specific cases. Improper maintenance is a major cause of unsafe conditions. The reason is that the maintenance method is not consistent with the reality, with the non-quantification of the maintenance personnel in professional and technical level and the violation of maintenance procedures, resulting in the aircraft in an unsafe state.

3.3 Unscientific aviation training methods

At present, general flight training is mainly conducted in the following three steps: Classroom presentation, reminder assisted classroom teaching and hands-off classroom teaching. At the same time, in the training process, the flight trainer is generally set "demonstration", "reminder assistance" and "independent operation" and other options to improve the training effect.

However, in the specific training, many instructors failed to carry out targeted flight training according to the specific conditions of students, which resulted in that the trainees of this training mode were affected to varying degrees in practice, and then they carried out the next step of training, which had a great impact on the effectiveness of classroom presentation. In the process of reminding auxiliary classroom teaching, many instructors are unable to adjust their own state according to the situation, which leads to the effect of this link can not be fully reflected. As giving assistance to students, many instructors failed to have proper instructions, as a consequence, students fall into anxiety and panic with negative psychology, and thus, it is prone to give rise to safety problems. However, in the hands-off training, due to the high degree of freedom for students, they will conduct operation in their own will, rather based on the requirements of the regulations, which leads to safety problems. In addition, some flight instructors just offer lip service without actual demonstrations for students, which leads to the failure of students in practice and they failed to accurately grasp the correct operating procedures with certain safety risks.

3.4 Analysis of unsafe risks in flight training environment

Natural environment unsafe hazards mainly refer to the natural environment and unsafe conditions during flight. Unsafe conditions caused by abnormal natural conditions such as birds, thunderstorms, etc. In most cases, unsafe conditions are predictable but unaffected, resulting in a significant threat to flight safety.

4. Cultivation of safety awareness countermeasures of pilot cadets in flight training

4.1 Aircrew coordination in intensive training

In the implementation of classroom teaching, instructors should conduct classified training according to the differences of students, and flexibly use "classroom demonstration", "reminder and assistance" and "independent operation". In the

demonstration stage, the instructor should conduct accurate demonstration, and guide the students to ask questions, so that the students understand their actions, so as to achieve the basic process of letting the students find me.

During the assistance period, the instructors should be sure to pay attention to the students' condition and encourage them to conduct flight training in a stable condition. In the process of independent operation, students are required to finish the operation in a independent manner through the system monitoring based on the premise that safety can be ensured, as a result, the synergistic capability of the air crew can be improved and to achieve better learning efficiency in flight training[4].

4.2 Intensive simulation training

For flight simulator, in flight training, it can bring real experience to students, help them understand the problems they encounter in flight, and avoid safety risks. It can enhance students' ability to predict and analyze emergency situations and improve their safety awareness in driving, so as to ensure safety in the future flight. Therefore, at the same time of pilot training, it is necessary to strengthen the relevant simulation, constantly break the way of simulation, and improve the students' learning initiative.

4.3 Improvement of the training system

In order to further strengthen the standardization of flight training and improve the safety of flight training, it is necessary to establish a scientific training system to ensure that under the premise of safety, improve the actual performance of flight training. First of all, a sound management system should be established to clarify the responsibilities of each flight training staff, improve the level of early work of training, improve the standardization of training process, improve the summary and evaluation after flight training, promote the scientific and effective flight training process, and comprehensively improve the safety of flight training.

4.4 In the course of flight training, students shall impart flight experience and cite appropriate safe flight cases

In order to enable students to better grasp the basic principles of aircraft, during flight training, they should impart their own flight experience to students. When teaching flight experience, the instructor should explain the external factors and objective reasons after flight to students in detail, so that students fully understand the flight experience. When encountering emergency situations, we can calmly and soberly solve them, instead of recalling some basic knowledge with weak application in emergency situations. On the contrary, we can quickly find solutions from the past flight cases and make the most correct decision.

For example, in summer, the flight environment is in frequent and rapid changes and in the process of flight, there will be frequent extreme weather such as storms, and coordination of various parties is a must in the process of flight. Therefore, in such cases, in order to ensure flight safety, pilots must comply with the relevant laws and regulations of civil aviation. Secondly, it is necessary to make analysis and judgment according to the storm size, spacing, wind direction and custom. When identifying the weather, it is necessary to make use of the accurate test instruments on the aircraft, adjust the aircraft radar antenna angle accurately and make reasonable identification of the circling line before implementing the circling plan.

The flight instructor should tell the students these practical experiences, so that they can turn what they have learned into technical things in practice. The pilot can better master how to fly in harsh environment through the explanation of the flight instructor. Besides, through a lot of flight experience of the flight instructor, the students will learn some flight skills and things that can not be taught in the textbook. This has played a good role in promoting the development of students' independent thinking, and also opened up a good way for the content of the training course in the future.

4.5 Improvement of the theoretical learning system

To improve the safety level of flight training, we must strengthen the basic flight training and strengthen the understanding of the basic knowledge of flight. First of all, we can reform the course content and evaluation system to strengthen the teaching of basic theories and the evaluation of basic subjects.Secondly, it is necessary to clarify the job responsibilities of the instructors in the classroom and supervise them to ensure that the teacher can provide students with all-round education in basic flight knowledge. In this way, trainees can master basic flight techniques, especially basic knowledge of safety before drilling, thus improving the safety of flight training[5].

Conclusion

In conclusion, currently, travel by air is the first option by most people, and in this era, airlines are becoming more and more popular. In flight, flight safety makes a high priority. Therefore, during flight training, pilots should always be on high alert with full safety awareness,and they should bear in mind the safety bottom line, start from themselves and minor things,

learn basic knowledge well. Only by constantly improving their flight technology, can they ensure their safety in the formal flight.

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