

*E. Slastenka, PhD, Prof.
O. Sidorkina, PhD, Assoc. Prof.
T. Poda, PhD, Assoc. Prof.
S. Iagodzinskiy, PhD, Assoc. Prof.
(National Aviation University, Ukraine)*

ROLE OF THE HUMAN KNOWLEDGE IN AIRCRAFT SAFETY IMPROVEMENT

Philosophical and ethical aspects of flight security system are taken into account in this article, the role and place of future aviation expert preparation is indicated.

Aviation is playing the important role in the system of passenger and transport delivery of the world these days. Especially attention should be paid to the increase of tourist aviatransportation, business contacts etc. Along with increased technical capabilities of flight control systems of aircraft complexity, increases the risk of emergencies that require further development of measures of aviation safety. Separately should also note the potential terrorist threat.

The inclusion of Ukraine into the global airspace (Ukraine is a member of ICAO), the approach to the introduction of "open skies" set the agenda for many diverse issues related to full integration in this space, improving the safety of air traffic. Part of the problem, in our opinion, is the socio-cultural aspect in its broadest sense.

The analysis of literature as for this question indicates as for the difference of its technical and psychological side, connected with personal aspect, social and cultural aspect is considered fragmentary, from separate issues connected with direct influence of technical issues on humanitarian ones. Scientists have identified a number of urgent problems to solve them in the near future. In particular, the issue of sustainable development of the national aviation terminology in the context of globalization [1, 2], the question of the "human factor" in aviation [2-4, 5, 7, 9, 10, 13, 14], the formation of educational environment in vocational training flight composition, psychological aviation security [2, 15] and others.

Much less attention was paid to the analysis of the total space and the role of human knowledge in the system of training of pilots (and general aviation industry workers) from the standpoint of improving the quality of aviation and safety of flights. Therefore, in this article, we attempted to identify, organize and consider the essence of socio-cultural component of safety, noting the place of human knowledge in these issues.

Safety of air transportation is one of the leading places in the degree of research attention and will be on the agenda as long as there is pilot aviation. The significance of this issue can be seen with some statistics. Yes, if in the 30th of the XX century. Because of the pilot fault there were 35-40 % of accidents and disasters, the 50-ies the figure was 55 % in the 70's - 60-65 % in 80-90 years - 70-75 % in 2000 - 92 % [15]. According to other data in aviation for decades starting with the 60-ies of XX century the share of the "human factor" of the total amount of aviation accidents is estimated by a steady increase from 40-50 % to 80-90 %, and considering flying of general aviation maintenance, air traffic management, transport infrastructure, the overall proportion of the human factor is 90 % [9, s.27]. All this indicates the increasing importance of human factors as interconnected systems professionally important qualities (neuro-emotional stability, motivation, efficiency of thinking, technical skills, etc.). In the aviation industry the concept of "human factor" includes many items related to the behavior of a man, his capacity for work, methods of decision making, cognitive processes, correct operation of technical devices, navigation equipment, staff training improvement. Thus, that is the science of people who live and work in certain conditions of their interaction with machines, procedures and environment, as well as the interaction between people [3, p.9-10]. It's clear, avoiding of disaster in an emergency depends on the balanced and professional actions of pilots. In the study of the human factor the achievements of such disciplines as psychology, physiology, medicine, construction machinery and equipment, sociology and others are traditionally used. However, the complexity and diversity of the human factor requires a broader view of man as a social person, which includes consideration of socio-

cultural, or humanitarian knowledge (need to explore all that is disconnected set in a philosophical analysis of human interaction and technical devices in ergastic complexes [9, p.31]).

According to researchers evaluation social and cultural factors "significantly affect the allocation of population related benefits in passenger transportation" [14]. Here, except for reasons of prestige, habits, social attitudes, there is also awareness of the degree of comfort, convenience and safety of traffic. The significance of these issues in our time also increases due to increasing cross-cultural contacts, international communication, which requires a deep awareness of cultural mass and traditions of other nations.

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Over the past years in the practice of flying activity, international contacts increased in this area, there appeared a need to harmonize conceptual and terminological apparatus, or a special flight terminology. Its use provides an important point of an adequate interpretation of the content of terms and concepts is of the main importance for the safety of air and ground aviation. There arise urgent national philosophy of traditional approaches to language applied traditions and the actual state of the realized measures of aviation terminology that based on them ... try to formulate specific conclusions of the socio-cultural aspects of globalization" [1]. Namely transport language improvement of the policy can increase the competitiveness of the national civil aviation. The linguistic aspect of human factors also include lack of semantic elaboration of such categories as "complications of flight conditions," "difficult situation", "emergency situation", "catastrophic situation", "incident", etc., due to lack of systematic definitions of terms such basic concepts as "event", "status", "situation", "action", "error", "special situation during the flight" [9, s.29] as for aviation.

One of the most important, in our opinion, is axiological aspect associated with the practice of decision making. This is in line with student-oriented approach in the education of future pilots, which psychological and educational theory offers. The essence of the latter is that one gets not only certain amount of knowledge, but he is included in the educational process of identity formation, gaining experience of specific personality features: self-reflection, determine the meaning, will regulation, responsibility, creativity, and others. [2, p.37].

Personal evaluation include a subjective ranking of importance, or quality of the situation. As for the decision making evaluation serves as a compass that indicates to a person the desired direction when you need to choose between alternative actions. It is important to emphasize that any decision, not only related to issues of social responsibility and ethics, is built on the foundation of a system of values.

With such concepts as "freedom", "responsibility" to a number of ethical categories is closely connected. The most important of them is the duty as the need to fulfill their moral obligations and the need to subordinate freedom more important than one's own. Their implementation implies agreement with those requirements that are placed in the imperatives of duty. This concept is in tune with other moral and psychological mechanism - the "conscience", which operates from the middle of our soul and is an indicator of good faith performance of our duty. Thus, that is the sense of responsibility for specific duty, it is an internal self-report for the fulfillment of certain moral obligations of the individual [5, p.81, 92, 94].

Studies show that valuable orientation influences the way the decisions are made. There are many factors that complicate interpersonal and inside company communication, affect decision making. This can manifest itself in different perceptions of the serious perception of existing problems, limitations and alternatives, leading to disagreement and conflict in decision making. Therefore, an important part of education is the formation of collectivism, common values, the sense of team, which shows the social essence professional skills of pilots. Also the important issue is the humanization and humanitarization of engineering education, which contributes to general cultural development of young professionals, the formation of their creative thinking and understanding of the achievements of modern science and technology, understanding of such interconnection as "man-nature" "man-nature" "man-production", "man-machine" and others. [11, p.34].

The practice of civil aviation of the last decades has shown the emergence of a new type of

conflict between the demands of management non-state air companies and with regulations airline safety. According to the analysis, the main factors that affect the possibility of pilot error actions are in addition to ergonomic features of the aircraft as social factors and their personal qualities [4, P.35]. The latter includes such elements as: general orientation of the individual through their ideals, beliefs, ideology, interests, etc., the level of training, the quality of mental processes and character. Over the recent years a trend towards a conflict has been seen as for motives in consciousness (or incompatibility) in specific contexts between the need to ensure the safety of flight and receive the benefits, cost savings, preservation of "image" and others. In this case, the direct social environment of pilot (commercial interests of the airline or structure) may be crucial in the process of acceptance of a decision during the flight mission. The conflict of motives, arising under its long-term effects can be serious negative factor that leads to psychological personality disorders, increased depressive tendencies and psychosomatic manifestations of discontent. In this situation, first of all such a quality a person will start to suffer, when the pilot is forced to deal with the dilemma of "safety-benefit" and refuse to perform a risky but profitable solution [4, P.35]. Therefore, new social conditions new meaning become the category of courage and civil responsibility. Not the least role is played by moral principles and ethical norms that prevail at present in society and directly or indirectly influence the formation of moral and motivation of the pilot's personality. Thus, the issue includes the integrated system and common criteria for responsible decision-making in all sectors of the aviation industry.

Thus, concepts such concepts as responsibility, obligation must serve as the main motivating function in the formation of professional skills of pilots, part of corporate ethics. Concentrated expression of the integrity of cultural and professional levels of the pilot's personality is the system of their actions during emergencies in the air. This way cosmonauts AG Coastal and V. Ponomarenko described this state, indicating the words of test-pilot: the main thing is the "ability to think rationally at the moment of danger, thinking about what is necessary to do, but not what will happen to me" [9, p.140].

The further aspect of the content of human knowledge that will contribute to the formation of professional skills of employees of aircraft is the philosophical dimension of the problem space and time. Besides it is important to get not just the general notion of time, its properties, forms, but also features its course in a specific flight operations.

Time, like space, is a necessary component of human perception, and ability to perceive objects and events in time sequence acts as an important feature of consciousness. According to one of the philosophical interpretations of time the meaning of the duration of the phenomenon of the route, changing each other, with only one dimension [12, p.53]. There are different kinds of time that of practical importance for flight safety. First, a biological time, which has typical properties such as vector function, skewness (dissymmetry) (direction from the past to the future), hidden asymmetry (indicating the form of rhythm), diversity and inequality. That's why at different ages we require various amount of time to perform the same physical activity. Circadian of biological rhythms of time is taken into account during flights through several time zones. So the experience of pilots trying not to adapt to the time of place of arrival, but keep following to the sleep of their permanent time zone. In regard to, the experience of British airlines draws attention to it, according to which during twenty-eight flying days pilot can cross no more than forty time zones without reducing the level of his performance [8, p.102-103, 112].

Another practical aspect of time related to the known phenomenon of his "compression" in emergency situations. The result of reaction of pilots to such conditions is either quick decision to the only correct solution, or paralysis of the will. Research conducted for the purpose of the subjective feeling of time delay among hang-glider pilots show that when successfully completed flight, when there were dangerous situations, time flowed longer than it was in reality. The comparison of the duration of the flight with the duration of individual minute pilot indicates the existence of two different mechanisms for extension of time - a slight increase in the duration of a minute and sharp, but short-term change in time scale. In this case, by the parallel analysis of options for dealing with a different scale of time for a person subjectively seem stretched ("berkhovskyy time" as a stream of events that are mutually disjoint). In this regard, results of studies indicate theoretical interest of perception of events someone, in particular the philosophical model A. Loginova as for two directions of person's time flow -

the real physical with the direction of movement from past to future time and mental activity of the reverse movement from the future to the past with different rate movements associated with the rate of processes in the nervous system [8, p.127, 139].

So, having considered the philosophical and ethical aspects of system safety, we can determine the place and role of human knowledge in training future specialist aviation. It's necessary to admit an important role student-oriented model of education, aimed at developing of an integrated personality of the pilot. Thus, in our opinion, more effective achievement of this objective will contribute to broad socio-cultural (general humanitarian) approach to the specific content knowledge with professional issues as for importance of aviation safety. This content should include knowledge of the field of ethics, moral consciousness, deep examination of number of categories of philosophy, as well as perform cultural education that will profit to the acquisition of necessary skills of specific personal characteristics.

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