Importance of foreign language communicative competence formation of international civil aviation flight personnel as aviation safety factor

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The air transport safety or aviation safety is the most important international air law key principle and one of the biggest and most serious world cooperation goals between states regarding international civil aviation development.

Flight safety ensuring is a harmonious and efficient combination of measures and state actions being legal, aeronautical, technical, organizational and informational by nature, and the main flight safety purpose is to perform safe international and domestic civil aircrafts flights without any threat to human life and health. In the context of international law, these measures are ensured by relevant recent bilateral and multilateral treaties implementation concluded between states, which include provisions on mutual rights and obligations to cooperate, develop and maintain an appropriate flights safety level, as well as on the suppression or resolution of situations related to unlawful acts or threats of civil aviation safety.

The Chicago Convention of 1944 has aimed to create appropriate conditions for international civil aviation that will allow it to be developed in a “safe and orderly manner” [1]. ICAO stated similar goals and objectives and indicated them in Art. 44 of the Chicago Convention of 1944: meeting the needs of the peoples of the world for safe, regular, efficient and economical air transport; safety promotion [1].

The unified technical aeronautical and legal rules creation remains the most important task for contemporary international air law, as a condition to ensure such safety.
The ICAO responsibility includes also development and adoption of new legal and technical regulations regarding aircrafts, as well as their certification and airworthiness, flight personnel and air navigation services.

An indisputable guarantee of efficient and safe air transportation is a competent, highly qualified and trained technical and flight personnel: pilots, flight attendants, flight engineers, air traffic controllers. The ship’s commander, being the legal representative of the air carrier’s company and possessing company powers, is responsible for the aircraft, passengers and other crew members safety.

A flight engineer as an extra-responsible position in the crew during long-haul flights has for a duty to control the state of aircraft mechanisms and equipment despite the fact that many functions of a flight engineer are automated in new generation aircraft.

The passenger’s safety and comfort, and compliance with them composing the necessary safety rules is a part of the flight attendants’ task. In case of sudden unforeseen cases, such as fire, turbulence, aircraft decompression, flight attendants are also responsible for organizing and application of necessary measures in order to ensure safe passengers evacuation.

It is impossible to deny that the role of the person on board is primary, so one of the most important task is also to minimize human errors, which are often reasons of tragic consequences. A qualified personnel training, as well as the procedure for issuing certificates of appropriate qualifications for flight personnel, is a direct condition for the international air transport development and the necessary atmosphere of trusting relations between states establishment regarding international air transport cooperation. One of the main tasks of ICAO is to create uniform requirements for issuing certificates that would correspond to modern realities.

Foreign language communication training is also one of the most important condition of flight personnel professional competence formation.

The most important element of flight personnel professional activity is the ability to negotiate in a foreign language with ground-based services and systems.

The constant aircraft’s crew communication with the air traffic, aerodrome and meteorological services, control authorities and dispatchers implies a foreign language
communicative competence. The ability to understand specialized professional terminology, the ability to conduct a dialogue, and quickly respond to changes in the situation caused by certain circumstances requires special training in order to build the communicative competence of the flight personnel in the terms of foreign language communication. Flight safety directly depends on how accurately the information is understood and accepted by the crew.

The basic requirements for foreign language proficiency for pilots are specified in Appendix 1 to the Chicago Convention of 1944: they demonstrate the ability to speak the language used in radiotelephone communications and understand it at 4,5,6 levels [2]. According to the provisions of attachment 1 of Appendix 1 of Annex 1 to Chicago Convention “ICAO languages proficiency rating”[2] , the flight personnel linguistic knowledge is evaluated in accordance with six levels. The required language levels are 4,5,6 [2].

A candidate who masters level 4 has a good pronunciation. Phonetic feature and intonation only in some cases impact understanding. There are no serious mistakes in grammatical constructions. There are no serious mistakes in basic grammatical constructions either and if there are some, they do not affect the meaning. The candidate’s vocabulary is sufficient for an effective communication on general, specific and work-related topics. He is also capable to keep up the conversation at a proper pace. Fluency of speech can be violated during the transition from the use of standard turns or learned language stamps to a relaxed exchange. «Filler words" do not interfere with understanding. Regarding the comprehension - the candidate understands general, specific and work-related topics that sometimes require clarification. He responds, as a rule, immediately, appropriately and informatively. Also, the candidate can initiate and support the information exchange. He corrects apparent misunderstandings through verification, confirmation or clarification.

A candidate who has level 5 of foreign language competence according to the Annex 1 to Chicago Convention masters a good pronunciation and intonation that never interfere with understanding. He respects the grammar rules and never does any mistakes, but his attempts to use complex constructions with mistakes sometimes distort the meaning. The candidate uses a sufficient vocabulary in order to communicate effectively on general,
specific and work-related topics. Paraphrases are used with confidence, the vocabulary is sometimes idiomatic.

As far as for comprehension the candidate demonstrates a total knowledge of general, specific and work-related topics and an almost complete understanding of non-standard situations and dialects. In dialogues he reacts promptly, appropriately and informatively. Effectively supports the dialogue "speaker - listener".

The most important level of foreign language proficiency according to the the Chicago Convention norms is the level 6. The candidate has perfect pronunciation and intonation. He uses successfully basic and complex grammatical structures and sentence patterns and never makes a mistake. The vocabulary variety and clear understanding of professional context allow to create fluent and efficient professional communication.

It should be noted that the requirements for the 5th level of grammar knowledge allow some distortion of meaning, which is not acceptable from the point of view of flight safety. In this regard, the need to use complex grammatical constructions by pilots that distort the meaning should be reviewed.

In order to form a foreign language communicative competence of the flight personnel of international civil aviation, it is necessary to take into account its objective and subjective features [3]. Objective features include [3]:

- Special - profession features, which assume and determine the presence of future experts special professional knowledge and qualities; the use of certain methods;
- Organizational - educational process features; the using appropriate material and technical means;

Subjective features can be considered as communicative and cognitive abilities of the learner, his knowledge about the world, his social values etc.

The formation of foreign language communicative competence as a subject of research is presented in the researches and scientific works [4-13]. Nevertheless, despite a significant number of works, this subject presents a great interest for studying from the contextual approach perspective to learning [3], [14-16], [17].

Among the 16 civil aviation pilots competencies, the first place is given to knowledge of the English language [14]. At the same time, foreign-language competence is an integral
part of such competence as the flight safety organization and control, and one of the conditions of it is a competent pilots interaction with dispatchers and ability to work with machinery equipment on a foreign aircraft.

Communication in English carried out by pilots making international flights, involves a foreign language special communication on professional field. For pilots flying within Russia (or other country, domestic flight) English language knowledge is also important in order to understand the operating instructions. Thus, the requirements for foreign competence among pilots of international and domestic flights are significantly different. For international flights pilots, as it has been already mentioned in present article, foreign language competence implies not only passive knowledge of a foreign language, which consists only of understanding a highly specialized foreign language technical text, but also the ability to communicate via radio in English. A feature of this verbal interaction is the predominance of verbal communication over non-verbal communication and the inability to follow non-verbal signals of the interlocutor - his facial expressions and gestures, which always facilitates understanding. Thus, the leading foreign language skills necessary for working with additive information sources - are listening skills and phonetic competence.

The most important tasks for international flights pilots is the ability to perceive hearing messages of radio exchange at a pace and volume generally accepted for them, to interpret it as accurately as possible regarding the correspondent intent, and also to create an appropriate situation for radio communications.

The main difficulties in the radio communication implementation, pilots may encounter when performing international flights, can be divided into three groups:

1) technical;
2) speech;
3) linguistic.

All of them can serve as an obstacle to the perception and creation of the radio message.

Noise and all kind of interference are technically caused obstacles to an adequate radio message perception, and consequently a speech reaction to it. The following exercises
contribute to the pilots preparation for the radio exchange implementation in conditions far from ideal:

- training audio texts containing artificially created noise, interference, recording defects;
- real audio recordings of radio exchanges containing natural interference, noise, defects.

The individual pilots speech and behavioral characteristics, as well as the linguistic interference resulting from the communication of non-native speakers, are the cause of an inaccurate or wrong radio message interpretation. So to overcome the difficulties of perceiving the English language it’s necessary to select audio texts containing speech of both sexes speakers, different age groups and people from different countries, as well as people with special diction, speaking at a different pace. Such type of activities helping to train an audio text complete understanding, it’s suitable to propose to learners self-scripting, then reading them with speakers at a certain pace.

Linguistic difficulties include the lexical and grammatical special language peculiarities. To overcome the radio messages perceiving difficulties, it is necessary to pay attention to the following activities:

- work with numerals (find, mark, write in the number you heard; write down a number of numbers from memory; find the number that is not in the audio recording; compare the numbers you hear with the written ones and find errors; write down the numbers at a fast pace);

- work on the lexical components of audio texts containing homophones, homonyms, paronyms (insert the missing words, complete the sentence to the end, compare the audio text with the script and find errors; compare the audio text with the script and determine the sequence of sentences);

- work on the audio texts grammar particularities containing complex verbs, postpositions, denial, gerund, different parts of speech that match in form (determine the time, number of the verb that is denied in the audio text, enter the missing word, match the audio text with the script and correct the errors);
- listen to the radio message and select the necessary sequence of actions from the proposed ones corresponding to the audio text;

- listen to the message, formulate the sequence of your actions.

In pedagogical practice with the aim of teaching a foreign language, a wide range of methods is used. But it’s to consider that not all existing methods of foreign language teaching are used, as it’s shown by the results of the study [18], while teaching a foreign professional language. Regarding objectives of foreign special language teaching for pilots, there could be distinguished the following methods contributing to professional tasks in a foreign development:

- ICT;
- Case study;
- Business game;
- CLIL.

The ICT use means of work based on radio exchanges materials listening and studying.

Case study is a training method aimed at solving a problem by analyzing information, evaluating alternatives in decision making. Students are given a task in English, for the solution of which it is necessary to determine an algorithm of actions by completing the following tasks:
- distribute the actions required to solve the problem in the required sequence;
- select from the indicated action algorithms the most optimal ones for solving this problem;
- find a mistake in the given actions algorithm;
- create the necessary action algorithm to solve a specific problem.

Business games promote the foreign language skills training in situations as close as possible to professional activities. Here are pilots professional communication situations in order to obtain information about:
- weather;
- work of radio equipment;
- air conditions to prevent collisions with other aircraft, as well as notifications of search and rescue services.

All speech situations in which specialists are working each time performing their professional duties can be divided in regular and occasional.

Regular speech situations include:

§ Negotiations with ground services
§ Aircraft take-off
§ Captain's address to passengers
§ A message about the aircraft entering the turbulence zone.

Among occasional situations one can distinguish:

§ the occurrence of man-made interference on board the aircraft: fire, smoke, depressurization of hatches;
§ the occurrence of weather conditions that impede take-off or force to urgently land at the airport;
§ human factor: health problems of the passenger (the plane goes for emergency landing to assist the passenger); undisciplined passengers;
§ acts of unlawful interference in the activities of civil aviation.

The CLIL method allows future pilots to study specialized disciplines in English, which helps to master the terminological base, professional cliches, the ability to formulate, convey, and also understand any problematic situation that occurs when performing professional duties in English.

Overcoming the difficulties is facilitated by the ability of English teachers to access the programs of specialized disciplines departments; the programs for the development, teaching aids for the professional English study with the leading experts participation in the departments of specialized disciplines; analysis of a large number of radio exchanges in order to create, on the basis of this analysis, an educational and methodical complex that takes into account the difficulties of foreign language communication experienced by pilots in everyday professional activities.
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