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Non-standard speech as a component of pilot-ATC communication

The purpose of the article is to reveal the peculiarities of the implementation of aviation radiotelephone communication, to substantiate the linguistic characteristics of the standard phraseology of the ICAO radio exchange, and to single out the factors that affect the success of professional and dialogic communication between the participants of the radio exchange.

The problems of training ATC students to conduct radio communication from the perspective of foreign language communicative competence are in the focus of scientific research Cavcar (2004), Long (2022), Lin, Wu, Guo et. al. (2021), Liang, M. (2021), Drayton (2021) and others. Linguistic aspects of the phraseology of radio exchange are the subject of scientific research by de Almeida Prado (2021), Tajima (2004), Wyss-Bühlmann (2005). The issues of the use of professional jargon by persons whose first languages are different were investigated by Girginer, Sullivan, Kandlin, Dudley-Evans, Jones, Robinson, Hutchinson and others. They emphasize the need to use of general English in the process of air communication. The challenge of regional accents for aviation English language proficiency standards was investigated by Tiewtrakul & Fletcher (2010).

Considering the radio exchange as a process and as a product of dialogical communication, the features of dialogs for AT controllers are determined as purposefulness and fast pace. Attention is focused on the importance of using language as a means of communication and a factor in flight safety. That is why, in our opinion, ensuring high-quality speech interaction between the AT controller and flight crew members determines the relevance of further scientific investigations.

The purpose of the article is to reveal the peculiarities of the implementation of aviation radiotelephone communication, to substantiate the linguistic characteristics of the standard phraseology of the ICAO radio exchange, to analyze the structure of communicative interaction during the implementation of radiotelephone communication, to single out the factors that affect the success of professional and dialogic communication between the participants of the radio exchange.

The authors consider the training of ATC students in aviation English as a system of professionally oriented language training, which includes a complex of methodological approaches, general and special principles of organizing the educational environment, methods and forms of training, and pedagogical conditions. The language training program for ATC students and flight crew members is focuses

on the development of the ability to use non-patterned speech in the process of professional dialogic communication; development of communicative language skills and such linguistic subskills as pronunciation, speaking speed, understanding, listening, the ability to replenish vocabulary and use language constructions; ensuring a minimum fourth (working level) knowledge of the language for radiotelephone communication (Carsten, 2020) .

International organizations: ICAO (International Civil Aviation Organization), ICAEA (International Association of English in Civil Aviation) and IALCO (International Aviation Language and Communication Organization) act as centralized information resources, offering language services in the field of aviation English. The activities of these organizations are aimed at solving the problem of increasing the level of flight safety by forming functionally oriented communication skills in aviation professionals. They determine the basic requirements for the language competence of specialists in the specified field.

Aviation radiotelephone communication is characterized by the absence of a visual channel of perception, which makes it impossible to use non-verbal means of communication; the inability to interpret messages to effectively control mutual understanding; a large amount of transmitted information; the probability of adverse acoustic conditions under which communication is carried out, background noise (the noises in the crew cabin, electrostatic interference) and the imperfection of the equipment lead to the loss of part of the information or its incorrect interpretation.

Therefore, the success of pilot-ATC communication depends mainly on level of their language competence. AT controllers with a low level of language proficiency must undergo appropriate language training. The ones with a high level of command of a foreign language should formulate their messages in such a way that their content is understandable to a less competent interlocutor. The example is the aviation disaster that occurred on April 1, 2017. Lot-Boeing 737 with 93 passengers on board was heading to Heathrow Airport. A technical problem occurred on board the aircraft; the flight crew members could not determine the location of the aircraft. The captain requested assistance from the air traffic control controller, but was unable to adequately understand his instructions due to insufficient command of the English language, as a result of which the aircraft repeatedly deviated from the course. The controller managed to change the course of another aircraft and avoid a mid-air collision. The planes were separated from a collision in the air space by only a few seconds.

The language of AT controllers has some specific features. It can be considered as a type of a certain language subcode. Since each sublanguage is distinguished by the use of specific, highly specialized vocabulary and non-standard language structures, we consider it necessary to focus on the linguistic features of standardized phraseology, which is intended for use by the participants of radiotelephone communication. Linguistic characteristics of standard phraseology (Philips, 1991) are: limited vocabulary (approximately 400 words); each word has a precise meaning; short sentences without articles, possessive pronouns, auxiliary and linking verbs, personal pronouns, lots of prepositions, incomplete sentences with no subject. For example: “Crossing runway” instead of “I am crossing the runway”; “Do you agree to depart from...?” instead of “Do you agree to a departure from...?” “Will

report" instead of "I will report"; the presence of a phonetic alphabet, acrophonic assignment of code words to the letters of the English alphabet (PAPA, MIKE, DELTA) to ensure the clarity and uniqueness of each message; neutrality of expressions and absence of emotionally colored expressions; most sentences have a verb in the imperative mood and the passive voice. For example: "Cleared to land", "Report when ready", "Say rate of climb", "Heading is good".

In a radio exchange, the use of social jargon and professional jargon from other specialized fields of activity is prohibited, as they can make it difficult to understand the message. Air communication ("Airspeak") is based on minimalist syntactic structures, implemented in the language of commands or instructions designed to ensure effective professional dialogic communication between the air traffic control controller and flight crew members. However, in the case of a non-standard situation of radio exchange, when there is a need to describe the situation in detail, to get full information about the current situation, the participants of the communication should be able to use colloquial language, vocabulary and grammatical constructions that are not the standard phraseology. Questions are mainly used as confirmation (interrogative syntactic constructions and interrogative intonation) and inquiry (Hinrich, 2008):

- ATC: "Speedbird seven four Delta, say again, please".
- Pilot: "Do we have to fly full departure route or do you give us a heading as usual?"
- ATC: "Speedbird seven four Delta, say again, please".

This example shows the use of an intonation syntactic structure that ensures full understanding of the message, the polite word "please", which is not the standard phraseology, but softens the perception of the request. The phrase "say again" is used to clarify the received information. Thus, although the standard phraseology of radio exchange is a linguistic phenomenon, it is a set of rules developed on the basis of research into the causes of aviation disasters with the aim of preventing them. Aviation radio language rules define when and what to say, including a list of words and sample sentences, their interpretation, and an explanation of the rate of speech when transmitting a message.

Misunderstanding in radiotelephone communication can happen due to the following reasons: homophones; differences in the participants' pronunciation; use of unnecessary words; tracing of linguistic constructions; insufficient level of language proficiency; ambiguous message; use of native language words instead of standard radio exchange phraseology.

Standard radio exchange phraseology serves to ensure effective communication between the AT controller and flight crew members. However, aviation and linguistics experts conclude that no set of standard language tools is able to provide the entire range of communicative needs that arise in radio exchange. Linguistic research has proven that natural, spoken language is the most effective form of communication for the successful implementation of pilot-ATC communication in emergency and standard situations, as it has a constructive, creative function that enables the creation of a new meaning and the use of a word in new contexts of aviation communication. Even when using colloquial language, the message should be clear, concise, and unambiguous.

Minimizing the number of errors in the process of communication and speech interaction between the air traffic control controller and flight crew members is one of the ways to increase the level of flight safety and air traffic control efficiency. Therefore, the development of the ability to effectively construct a speech message outside of standard phraseology, as a necessary component of pilot-ATC communication, is a priority task of professional training of ATC students.

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