8.4 Development of aviation English skills in distance learning

Modern scientific and technological progress in the form of the Fourth Industrial Revolution has radically changed the requirements for the development of the aviation sector all over the world and in Ukraine in particular. The importance of the professional skills reliability for the pilot of a modern aircraft has increased immeasurably. Requirements to increase the level of reliable training of pilots in Ukraine are due to the event that took place in October 2021: the signing of an agreement between Ukraine and the European Union on a common aviation area, opening a new air transport market, new opportunities for both consumers and operators.

According to the statistics of International Civil Aviation Organization (ICAO), the number of accidents caused by a technical system has decreased over the last 10 years, and at the same time, the number of those caused by humans has increased proportionally. Today in Ukraine the problem of the human factor has manifested itself especially acutely. This is due to a number of reasons. Analysing the list of erroneous actions of the aircraft crew, the Interstate Aviation Committee notes that with the entry of Ukrainian airlines on international routes, a significant increase in aviation accidents due to the admission of aviation personnel to work with insufficient training. [586]

Most cases of aviation accidents and crashes on international air routes are due to the following reasons: lack of reliable knowledge of standard and non-standard phraseology of the English language; insufficient mutual understanding in the process of radio communication of the flight crew with the control point; inadequate analysis of the abnormal situation; making erroneous decisions and transmitting them via radio to the air traffic controller; slow perception of information in situations that require a quick solution; insufficient level of spoken English; lack of English language skills - the language of communication in aviation according to ICAO standards. [582]

Obviously, the problem is the lack of professional communication skills reliability in English. Professional reliability, thus, acts as a criterion for the ratio of aviation specialist to the requirements of the time. [586] This raises the issue of the quality of

the pilot professional training on a modern fly-by-wire aircraft. Therefore, the search for ways to increase the efficiency and reliability of professional activities of flight crew members in the context of radio communication in English is an urgent problem of training flight crew for flights on international routes. The training process has become more difficult due to the spread of the COVID-19 pandemic.

Despite the fact that the search for ways to solve the problem of improving the professional reliability of the flight crew is conducted by scientists in various fields (improved methods of forming professional knowledge, skills and abilities; training technologies are formed) more attention should be paid today to the training of aircrew for international flights in the context of distance learning. Learning English according to ICAO standards and conducting radio communication in English today requires a different, integrated approach (mixed form of education - classroom, distance and simulator), which should take into account the specifics of joint activities (aircraft operation and radio communication in English). So, organizational, technological and didactic principles have been developed today exclusively for the traditional approach to learning. [583] But at the same time, within the current epidemiological situation, the question of classroom, distance and simulator training technologies on an integrative basis is particularly acute. The integrative effect in this form should be achieved through the completeness, adequacy of connections and focusing goals and objectives of English language training to obtain the successful result - the reliability of English radio communication in standard and non-standard flight conditions and free communication in English not less than 4 –th level according to the standards adopted by ICAO.

Thus, as classroom and training forms were and are traditional and even classic in the development of reliable knowledge skills and abilities of future pilots [586], distance learning technology is now accepted by us as relatively new and requires perfect study for reliable level of knowledge of English in the future specialist in flight operations.

The theoretical basis for the professional training development has been studied by many specialists in domestic and foreign science: Averyanov O. M., Anokhin P.K.,

Andreev I.D., Afanasyev V.G., Blaumberg I.V., Ashby U.R., Yakovlev I.P. (reveal the patterns of a systematic approach to training); Antsiferova L.I., Leontiev O.M., Lomov V.F., Platonov K.K., Ponomarenko V.A. (express ideas about the unity of consciousness and activity of the individual, which is one of the main principles of forming a reliable specialist); Babansky Y.K., Batyshev S.Y., Gershunsky V.S., Davydov V.V., Lerner I.Y., Mahmutov M.I. (study the system, optimization and organization of problem-based learning); Aleksandrovsky Y.K., Garnaev O.V., Grimak L.P., Gromov M.M., Zhernakov V.F., Makarov R.M., Marishchuk V.L., Shandrikov V.D. (consider the problems of professional training of flight crew, psychophysiological reliability of operators, flight safety, taking into account the language aspect); Arkharova T.A., Bim I.L., Boeva I.V., Boldyrev M.M., Weizburd M.L., Kuzmina O.V., Vitryak A.M., Solovyova A.Y. (analyse pedagogical technologies of foreign language teaching). [581,586] But today none of the research in the field of professional pedagogy is devoted to the problem of forming reliable knowledge, skills and abilities in English for future pilots in the form of so-called a mixed learning (classroom, distance and simulator training). [587,590,592]

First, consider the very definition of distance learning. "Distance learning is an educational process in which a significant part of teaching is carried out by a teacher (or group of teachers), remote in space or time from the student (or group of students)." [587] (in our case from the cadets).

Distance learning technologies - a set of educational technologies, including psychological, pedagogical, information and communication, which provide an opportunity to implement the process of distance learning in educational institutions.

Subjects of distance learning are persons who study (in our case they are cadets) and persons who provide the educational process by distance learning (in our case they are teachers, methodologists and laboratory assistants, etc.) [584, 585].

Distance learning can take place in a synchronous mode - the interaction between the subjects of distance learning (cadets and teachers), during which all participants are simultaneously in the web environment of distance learning (chat, audio, video conferencing, social networks, etc.).

Asynchronous mode - interaction between distance learning subjects, during which participants interact with each other with a delay in time, using e-mail, forum, social networks, etc. Therefore, it should be noted that we use both modes in the process of distance learning.

Distance learning methods that are most relevant in the process of training future pilots in aviation English:

case - method - based on the use of sets (cases) of text, audio-visual and multimedia teaching materials and their distribution for self-study and organization of regular consultations with the teacher; [594]

Internet network method - based on the use of Internet and telecommunications to provide teaching materials and interactive interaction between cadets and teachers. [581, c. 5]

Let's review the case - method in more detail. This is exactly the most effective method in pilots' training. This method has been widely used by us before, even in the traditional form of education, as an element of distance technology.

Case - is a description of a particular situation or case in any field. As a rule, the case contains not just a description, but also a problem or contradiction and is based on real facts.

When training cadets, we offer them to analyse the proposed situation and find the optimal solution. Thematic case is sent to each cadet in advance. Such way, he has some time to get acquainted with the material. Sometimes the case-task (executive-case) is issued directly during the online lesson and, thus, connected "brainstorming" cadets solve it in a time limit, which is very useful for the reliable skills development in solving professional problems. Usually we offer a situation in the form of a video with a real emergency (You Tube) or movies ("Air Crash Investigations" or "1001 Air Crashes") or a real situation reflected in photo from the place of air crash. Cadets are asked to solve this case as follows: 1). Give a description of the image; 2). Assume the cause of the accident; 3) Analyse the hypothetical actions of the pilot and the air traffic controller; 4). Assume the outcome of the situation as if the pilot had acted differently; 5). Suggest your algorithm of actions in a similar situation.

We can name the advantages of the case - method in comparison with traditional teaching methods:

Practical orientation. The case method allows you to apply theoretical knowledge to solve practical problems. This approach compensates exclusively for academic education and gives a broader view of the situation.

Interactive format. The case - method provides more effective assimilation of the material due to high emotional involvement and active participation of the cadet. the cadet is "immersed" in a situation with the head: the case has the main character, in whose place puts the cadet or team and solves the problem on his behalf. The emphasis in learning is not on mastering ready-made knowledge, but on its development.

Specific skills. The case - method allows to improve "soft skills" which are extremely necessary in real working process, and in our case in a real flight.

Thus, we can say that the case - method is one of the most effective t methods for training future pilots in distance learning.

Taking into account the force majeure of modern education due to pandemic, we have developed an additional special course in the discipline "Aviation English", where we considered the specifics of the job – the ability to operate the aircraft and conduct radio communication simultaneously. Case – method has found its place in every Module of this special course.

In the system of distance learning, the cadet has the main responsibility for the development of such skills. The teacher transfers the role of a source of knowledge to educational computer programs that serve these purposes. The organization and management of the educational process become the main function of the teacher. A full-fledged online learning project consists of:

- instructive unit,
- information block (information content system of the resource),
- control unit (testing and evaluation mechanism),
- communicative block (systems of interactive communication both with the teacher and with other cadets);
- control system that combines all this together [581].

The Moodle educational platform used by Flight Academy of the National Aviation University is such a system. Appropriate organization of the educational process and distribution of material is the key to successful distance learning. Due to the fact that one of the aspects of the distance learning foreign language course is designed to develop skills of understanding aviation literature and mastering all types of reading (introductory, review, search), involving different degrees of reading comprehension, the material is selected according to the following criteria: relevance, authenticity, issues of content, professional orientation. Relevant teaching aids are an element of educational material. For example, the Department of Foreign Languages at the NAU Flight Academy has developed many textbooks in aviation English, English for professional purposes and English for scientific purposes in electronic format.

The structure of the course includes the following components:

- theoretical part, presented in the form of presentations, which creates figurative clarity;
 - practical part, including training exercises that provide multiple repetitions of the material;
 - intermediate tests necessary for the formation of professional skills;
 - final test tasks to control the assimilation of the material;
 - additional materials, including information about the course;
- requirements for tests and exams;
- manuals and reference materials necessary for successful mastering of the course program.

In the process of performing tasks, cadets can communicate with each other and with the teacher. As practice shows, the combination of automated control of knowledge and "live" communication is a powerful psychological factor that stimulates the quality of foreign language learning and leads to positive results.

So, due to its flexibility, distance learning creates the ground for the development of cadets' foreign language communicative competence, increases the efficiency of independent work, and the need for autonomous learning promotes, the development

of skills of self-education and self-development. It should also be emphasized that the creation of special courses for so-called mixed learning today is a necessary condition for further learning in a pandemic, which greatly facilitates the educational process and contributes to the effective results of aviation English teaching for future pilots.