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У статті обґрунтовується думка про те, що контекстний підхід, який вбачає в контексті стрижень навчально-виховного процесу, повинен розглядатися як центральна парадигма мовленнєвої освіти авіаційних операторів. Розкрито основні риси контекстного підходу та описано можливості його застосування в навчальному процесі.

Ключові слова: контекст, контекстний підхід, авіаційні оператори, мовленнєва освіта.

The article argues that a Context Approach which places context at the heart of the training should be viewed as the central paradigm in the language education of aviation operators. It concludes by outlining the features of the Context Approach and discussing its implications.

Key words: context, Context Approach, pilots and air traffic controllers, language education.

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*O.V.Kovtun,
candidate of pedagogical sciences
(National Aviation University, Ukraine)*

CONTEXT APPROACH: A NEW PARADIGM IN THE LANGUAGE EDUCATION OF PILOTS AND AIR TRAFFIC CONTROLLERS

The article argues that a Context Approach which places context at the heart of the training should be viewed as the central paradigm in the language education of aviation operators. It concludes by outlining the features of the Context Approach and discussing its implications.

As the number of planes in our skies continues to grow, so the need for safety becomes even more important. Safety experts are constantly seeking to identify means of improving safety in order to reduce accident rates. With mechanical failures featuring less prominently in aircraft accidents, more attention has been focused in recent years on human factors that contribute to accidents. Communication is one human element that is receiving renewed attention.

The role of communication in safety, particularly between air traffic controllers and pilots, is critical. Just how critical has been well established through research: "The most vulnerable link in our ... airspace system is information transfer between air traffic controllers and pilots. Research conducted using the safety reporting system confirms the problem. A review of 28,000 reports revealed that over 70% of the problems cited were in information transfer; this issue continues to represent the largest category of problems reported" [5].

In 1998, the ICAO Assembly, taking note of several accidents and incidents where the language proficiency of pilot and air traffic controller (ATCOs) were causal or contributory factors, formulated Assembly Resolution A32-16 in which the International Civil Aviation Organization (ICAO) Council was urged to direct the Air Navigation Commission to consider, with a high level of priority, the matter of English language proficiency and to complete the task of strengthening the relevant provisions of Annex 1 – Personnel Licensing and Annex 10 – Aeronautical Telecommunications, with a view to obligating Contracting States to take steps to ensure that air traffic control personnel and flight crews involved in flight operations in airspace where the use of

the English language is required are proficient in conducting and comprehending radiotelephony communications in the English language [9].

ICAO standards now demand that all pilots flying internationally and all air traffic controllers providing services to international flights must have a minimum level of English.

Both ICAO phraseologies and plain language are required for safe radiotelephony communications. The need for clear and unambiguous communication between pilots and ATCOs is vital in assisting the safe and expeditious operation of aircraft. It is important, therefore, that due regard is given to the use of standard words and phrases and that all involved ensure that they maintain the highest professional standards when using radiotelephony phrases. This is especially important when operating within busy sectors with congested frequencies where any time wasted with verbosity and nonstandard, ambiguous phrases could lead to flight safety incidents.

Of the many factors involved in the process of communication, *phraseology* is perhaps the most important, because it enables us to communicate quickly and effectively despite differences in language and reduces the opportunity for misunderstanding. Phraseology has evolved over time and has been carefully developed to provide maximum clarity and brevity in communications while ensuring that phrases are unambiguous.

Standard phraseology reduces the risk that a message will be misunderstood and aids the read-back/hear-back process so that any error is quickly detected. Ambiguous or non-standard phraseology is a frequent causal or contributory factor in aircraft accidents and incidents. International standards of phraseology are laid down in ICAO Annex 10 Volume II Chapter 5 [4] and in ICAO Doc 9432 – Manual of Radiotelephony [8]. Many national authorities also publish radiotelephony manuals which amplify ICAO provisions, and in some cases modify them to suit local conditions. Failure to use standard phraseology can lead to misunderstanding and breakdown of the communication process.

Non-standard phraseology, which is sometimes adopted unilaterally by national or local air traffic services in an attempt to alleviate problems and is introduced after careful consideration to address a particular problem, can make a positive contribution to flight safety; however, this must be balanced with the possibility of confusion for pilots or ATCOs not familiar with the phraseology used.

Although standardized ICAO phraseologies [7] have been developed to cover many circumstances (essentially routine events, but also including some predictable emergencies or non-routine events), no set of phraseologies can fully describe all possible circumstances and responses. RTF users should be prepared to use *plain language* when necessary following the principle of keeping phrases clear and concise. Plain English proficiency is the ability to communicate in non-routine and emergency situations during flight – for example, when a passenger suffers a medical problem on board. It is crucial that pilots can convey these sorts of messages clearly and effectively and that they are received and understood by air traffic control so the appropriate actions can be taken. Therefore, plain English in aeronautical communications needs to be clear, unambiguous, free of colloquialisms, slang and idiomatic speech, and accessible to the international community of users [6].

Aircraft are flown and controlled by humans, and human behavior is infinitely variable; the need to communicate an infinite variety of circumstances or nuances will continue. Pilots and ATCOs need sufficient language proficiency to manage all of the potential requirements of communications, which can range from routine situations to circumstances not addressed by the limited phraseologies, as well as non-routine situations and outright emergencies.

As the language component plays such an important role in the professional activity of aviation operators, both scientists majoring in ELT and teachers are looking for new approaches aimed at improving the process of foreign language assimilation. We find the Context approach to be one of the most appropriate for language education of future pilots and ATCOs. Let's define its features and main applications for aviation operators' training.

The theory of context education answers on how to shift from the world of educational activity to the real world of professional activity. It is possible provided we (teachers) create

pedagogical conditions for the dynamic transfer of students' activity from academic to professional, transforming the first into the second one. It does not require a point-to-point correspondence of student's activity to that of the professional (it's the easiest and wrong decision to turn a student into an apprentice of a manager, an engineer or a pilot, when the only possible way to study is observation or imitation). It's more important to consistently model in students' activity technological (profession-related context) and social (social context) components of the real professional activity of pilots and ATCOs. This way we can provide conditions for integration of different types of students' activity (academic, scientific, practical) [1].

To successfully perform duties of professional communication pilots and ATCOs should possess engineering (ability to analyze professional situations, set goals, choose proper means for solving technical problems, variants of optimal solutions, analyze and evaluate the findings, etc.) and speech skills. These skills comprise occupational (aviation-related) and speech components of aviation operators' professional competence. When developed, but not interrelated through the logic of professional activity and devoid of "efficiency" characteristics [3], engineering and speech competences often serve as certain psychological barriers relative to one another and prevent their instant integration in the operating process [2, p. 27]. This happens because the developed speech competences, in fact, prove to be linguistic, rather than specifically professional competences, and it usually takes much time to form a mechanism of efficient application of professional competences, which seamlessly include a speech component.

Communication of aviation operators inherently is not only a speech activity; it is related to and defined by information and profession-related environments. Besides, aviation operators should be flexible in switching from one language code to another. This, in turn, means that in addition to language competence and skills that characterize a polycultural linguistic identity, aviation operators need the so called situational communicative competence, directly related to technological proficiency. Two components of the mentioned competence are distinguished: 1) profession-related speech competences, which allow to use speech algorithms, extract from the informative field relevant operational information about the technological process and operate its characteristics; 2) contextual speech competences, which provide an accurate understanding of linguistic information about dynamically changing operating situation, which, in turn, creates conditions necessary for crew decision-making. Formation of these competencies, according to A.O.Verbytskyy and V.F.Tenischeva means that operator's professional competence is characterized by operational efficiency quality [2, p. 28].

Professional activity of aviation operators (flight operators or air traffic controllers) lies in solving a row of "typical operating tasks" in a native or foreign language (A.O.Verbytskyy, V.F.Tenischeva). A typical operating task (TOT) is a generalized model of previous problem situations of native or foreign language communication, woven into the context of technological processes performed by aviation operators. It contains the indication of the purpose, features, deadlines, spatial accuracy of actions and expected results. Thus, the TOT has a complex structure, including technological, social, psychological, temporal and speech components.

According to the theory of context learning, professional competence of aviation operators will be successfully developed in case students' training aimed at speech competence mastery is included into the analog of their future professional activities. Thus, we should create an integrative model of training in which practicing of speech component (development of speech skills and competences) is realized in simulated technological processes of aviation operators' professional activity. This training is integrative, because it provides: 1) integration of the content area of language and profession-related subjects, 2) integration of real speech activity and simulated (in training) technological activity of future pilots and ATCOs, 3) integration of teaching of language and profession-related subjects; 4) interlevel integration of academic, quasi-professional and training-professional activities, 5) integration of reproductive and creative activities of students in situations of professional communication [2, p. 29-30].

The main *unit* of this integrative context training is a typical operating task, and its *goal* is formation and development of students' abilities for competent solution of the system of such tasks.

Solving of every TOT stimulates students to speech activity, to usage of special linguistic material, this way students assimilate the material and operate it at the level of personal, social and professional meanings. In this case we can speak about a *combined training activity* (a special form of students' academic activity in which one type of activity is a means of solving profession-related tasks of another one) [1, p. 185]. A student in such cases is the subject of two activities – quasi-professional and speech. The basic prerequisites of combined professional activity are cognitive-professional needs of students. The key motive of quasi-professional activity is solving of professional tasks, while the key motive of speech activity is perception, processing, and production of professionally meaningful information. Quasi-professional and speech activities of students are united by common context, common space and logic synthesis.

Let's analyze those aspects of the professional speech activity of pilots and ATCOs that are important for organization of integrative context type training process. Professional speech activity of aviation operators is realized in conditions of full information and with its lack, which may be caused by both objective and subjective factors. Objective factors include: remoteness of communicators (no information can be obtained from facial expressions and gestures), brevity and abruptness of information reception, misrepresentation of information due to technical conditions (noise background), time pressure, information channel failure, multitasking. To subjective factors we refer low-level communicative skills of aviation operators.

The system of relations that arise in the combined training activity causes formation and development of students' professionally important qualities associated with speech activity. The decisive role in this process belongs to the professional context. With the help of quasi-professional tasks we simulate technological aspects of future profession; common activity and communication of future operators recreate its social aspects.

Information deficiency affects all key parameters of operators' activity, lowers quality of decision-making. Psychological similarity with air operator's profession is achieved in the training process by simulating conditions that cause information deficit. The latter can be achieved through different techniques: students receive operating information against the background of the "alien" radiotelephony communication; "flight communication" is complicated due to different non-standard situations (equipment failure, neighboring aircraft in distress etc.). Students should also be placed in situations of time pressure, be ready to solve all operative tasks and problem situations expeditiously and efficiently, within the specified (target) time. In this case we can speak about psychological context of aviation operators' professional activity. Experience to work in such conditions will contribute to the development of emotions and willpower of future operators, increase their professional reliability.

Recreation of technological, social and psychological aspects of future professional activity in the system of TOTs allows to form the structure of aviation operators' professional competencies associated with the speech activity.

The main forms of training in the integrative-context training of aviation operators should be: case-study, situational tasks and role plays. They allow recreating of integration processes and contexts, in which speech activity of students is a means of solving of simulated professional tasks.

Conclusion

Organization of the training process on the basis of the Context (Job-Specific) Approach allows bringing content and students' training process closer to their future profession. As a result, an integral system of profession-related, social and psychological skills (communicative, informational, analytical, instrumental, etc.) of future pilots and ATCOs is formed, facilitating their professional adaptation.

References

1. *Вербичкий А.А.* Активное обучение в высшей школе: контекстный подход / А.А.Вербичкий. – М.: Высшая школа, 1991. – 207 с.

2. *Вербицкий А.А.* Иноязычные компетенции как компонент общей профессиональной компетенции инженера / А.А.Вербицкий, В.Ф. Тенищева // Высшее образование сегодня. – 2007. – № 12. – С. 27 – 31.

3. *Шадриков В.Д.* Психология деятельности и способности человека: Учеб. пособие / В.Д. Шадриков. – 2-е изд., перераб. и доп. – М.: Изд. корп. «Логос», 1996. – 320 с.

4. *Annex 10 to the Convention on International Civil Aviation “Aeronautical Telecommunications” Volume II “Communication Procedures including those with PANS status”* [Электронный ресурс]. – Режим доступа: <http://dcaa.slv.dk:8000/icaodocs/Annex10.pdf>

5. *Day Brian.* ICAO Standards and recommended practices – an overview [Электронный ресурс]. – Режим доступа до ресурсу: <http://www.icaea.pata.pl/papers/B.Day.pdf>

6. *Emery Henry.* Plane English, plain English [Электронный ресурс]. – Режим доступа: <http://www.emery-roberts.co.uk/assets/Downloadables/Plane-English-Plain-English.pdf>

7. *ICAO Standard Phraseology: A Quick Reference Guide for Commercial Air Transport Pilots* [Электронный ресурс]. – Режим доступа: <http://www.skybrary.aero/bookshelf/books/115.pdf>

8. *Manual of Radiotelephony (ICAO Doc 9432)* [Электронный ресурс]. – Режим доступа: <http://dcaa.slv.dk:8000/icaodocs/Doc9432.pdf>

9. *Manual on the Implementation of ICAO Language Proficiency Requirements (ICAO Doc 9835)* [Электронный ресурс]. – Режим доступа: http://www.austrocontrol.at/Images/Doc9835_tcm586-77849.pdf