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### **Formation of foreign language communicative competence of future aviation specialists in teaching higher mathematics.**

The analysis of a number of works and educational and qualification characteristics shows that the model of competence of a future aviation specialist should consist of many components: professional, intellectual, creative, moral, communicative, informational, volitional. The competence of a future aviation specialist is, first of all, the ability to work in a team and learn, the ability to make appropriate decisions in the process of solving production problems, the ability to act in a situation of uncertainty, and for a number of future aviation specialists - the ability to make appropriate decisions in extreme situations [1,3,6,7].

It should be noted that one of the tasks of training future aviation specialists is the development of creative mathematical thinking. A specialist of this orientation must have the skills of creative problem solving, be able to pose a problem, find a way to solve it, be able to present and defend his/her solution. The development of creative mathematical thinking is closely related to the principle of professional orientation of learning. It should be noted that the principle of professional orientation focuses not only on the connection with production, but also includes theoretical training and the organization of interdisciplinary links.

During their studies, students should be provided not only with a sufficiently large amount of knowledge, but also with a high level of thinking culture, which will allow them to continue their studies (including on their own) and critically assess emerging problems, if necessary. In training a future specialist, the main tasks are: selection of material to be studied; intensification of teaching methods, which will lead to a more active and high-quality learning process; proper use of the human factor in the context of computerization; creative use of those valuable achievements in education that have been preserved from previous generations.

Knowledge of mathematics implies, in varying degrees, the ability and willingness to apply the mathematical way of thinking (logical and spatial thinking) and its actual application (formulas, models, constructions, graphs and diagrams).

Today, we are witnessing, on the one hand, a significant increase in the pace of mathematization of a number of sciences (computer science, biology, economics, linguistics, etc.), and, on the other hand, the intensive penetration of computer science and IT methods into the depths of mathematics, which affects the style and methods of mathematical work, enriches and expands the scope of application.

Methodological systems that contribute to the disclosure of the creative potential of future specialists, increase the role of independent and individual work and are based on the widespread introduction of the latest pedagogical and information technologies into the educational process are called computer-oriented teaching systems [4]. The combination of traditional methods of teaching mathematics and modern information and communication technologies increases the intensity of students' cognitive activity, and the teacher is able to improve the system of control and correction of students' knowledge.

But the introduction of new information teaching technologies should not be an end in itself. It should be considered primarily from the point of view of the pedagogical advantages it can provide compared to traditional teaching methods. It should be noted that for students - future specialists in the aviation industry - higher mathematics is the basis for studying specialized subjects, and is essentially applied. In addition, the teaching of basic concepts should be a balanced combination of rigor and accessibility. It is necessary to emphasize how the introduced new concept is used in theory and in applied problems.

Kyiv National Aviation University (NAU) has a successful English-language project. This means that since 1999, many of the university's students have been taught all subjects in English.

In connection with the introduction of this direction, there was a need to provide the training process with educational and methodological literature. The NAU has published a number of textbooks on higher mathematics in English. The textbooks present theoretical material with proofs of theorems, which are supplemented by necessary explanations, typical examples with solutions and drawings. The examples offered for classroom, independent and individual work are created for students of different levels of proficiency. As a rule, the manuals contain a list of special terms in English and Ukrainian [8,9]. A review by an English language specialist is obligatory for each textbook. Over the period of the project's existence, its popularity has grown at NAU: the number of courses, groups and students has increased. International students are studying in the same classroom as Ukrainian students.

The proper level of training can be ensured only by applying special educational and pedagogical measures: at the beginning of the higher mathematics course, it is advisable to conduct a lesson devoted to reading formulas, terms and frequently used mathematical expressions in English; before studying each new topic, it is advisable to give a list of new mathematical terms in writing. There are different types of individual independent work in higher mathematics: preparation for lectures, practical classes, tests, exams, individual homework, essays, preparation for participation in competitions and conferences in this subject. It is

worth noting the annual international conference "Polit", which is held for students and young scientists in almost all subjects studied. The performance of students is ensured by an effective control system, which includes questioning students on the content of lectures, checking the completion of current homework, solving problems at the blackboard, and defending individual works.

In the conditions of wartime in Ukraine, the most safe and reasonable form of the educational process is the distance learning, which combines synchronous and asynchronous modes of learning with the use of information and communication technologies. When teaching mathematical subjects, it is advisable to use modern software and hardware, optimize the learning and physical activity of students and teachers, and motivate students to study despite difficult life circumstances.

Works [2,6] consider the use of various services based on data visualization, as well as the benefits of using the whiteboard function implemented in a number of video conferencing software. It is emphasized that for full-fledged work, it is necessary to use a graphic tablet that is connected to a computer and is compatible with such applications as Word, Paint and PowerPoint. Graphic information can be entered using a stylus either on a blank field of the application or next to or over text or drawings, which allows you to create high-quality visual materials, save them and, if necessary, send them to students. Using a graphics tablet in conjunction with the Kami app also allows teachers to check and grade students' handwritten work that is sent to Google Classroom as individual photos or photos attached to PDFs more quickly and efficiently. Such works are the vast majority in the study of higher mathematics and other mathematical subjects.

Works [2, 5] consider various types of videos that can be used in the training process: educational films, studio and on-site video lectures, video screencasts, screencasts, interactive videos, etc. In particular, it is noted that quite often teachers use screencasts - digital video recordings of information displayed on a computer screen, which can be accompanied by voice comments [2, p. 25]. In teaching mathematical subjects, screencasts are a very convenient tool, as they allow not only to demonstrate the sequential presentation of educational material on a virtual whiteboard and to voice explanations to it, but also to use, if necessary, standard packages of applied mathematical programs (Derive, Eureka, Matlab, MathCad, Mathematica), which allow performing typical mathematical operations in numerical and symbolic form.

Summarizing the above, it should be noted that in order to form the foreign language communicative competence of future aviation specialists in teaching higher mathematics, it is advisable to combine such components as: information and communication support of the course, further integration of mathematics with the cycle of professional disciplines, and increasing the effectiveness of students' independent work.

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