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THE PEDAGOGICAL MODEL FOR THE FORMATION OF FUTURE PILOTS' SPECIALIZED COMPETENCE IN THE PROCESS OF STUDYING PHYSICS AND MATHEMATICS

The article presents pedagogical model of pilots' professional competencies during the process of studying Physics and Mathematics. This model consists of four blocks: organizational, contextual, technological and evaluative-efficient. In organizational block the aim is to form pilots' professional competence during the study of Physics and Mathematics, which is specified by setting relevant tasks. On the basis of psychological, pedagogical literature and professional qualification requirements for civil aviation pilots we have distinguished the components of professional competencies, which compose the contextual block of the designed model: cognitive, praxeological, motivational, communicative and personal. In order to assess the level of professional competencies formation the criteria of professional competence components have been defined according to their structure: intellectual, operational, motivation, communicative, reflexive. The next is technological block that includes organizational forms and methods. Their choice depends on the complex of pedagogical conditions that facilitate the formation of future pilots' professional competencies: to motivate future pilots to self-employment in the study of Physics and Mathematics; to form cognitive interest of future pilots in the study of Physics and Mathematics; to integrate Physics and Mathematics and vocation-related subjects in the process of training pilots in flight schools; to use interactive teaching methods during the formation of pilots' professional competence. We have chosen such organizational forms of work as: problem lectures, laboratory practicals, workshops and seminars based on interactive teaching methods, independent, individual work of students, conferences, discussions, business games and so on. Method of "round table", project method, solving practical problems, the method of viewing and discussing films with analysis of aviation accidents and disasters have been used. Functioning of the developed pedagogical model is grounded on general pedagogical, specific and general organizational principles. The level of development of criteria and

indicators of pilots' professional competence (high, satisfactory, medium and low), and the test evaluating the effectiveness of pedagogical conditions are presented in the evaluative-effectively block of the pedagogical model. As a result of the proposed model pilots' professional competencies have been formed.