

USE OF METHODOLOGICAL TASKS IN PROFESSIONAL TRAINING OF FUTURE TEACHERS OF INFORMATICS

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The article is devoted to the disclosure of the peculiarities of the use of methodological tasks in the professional training of future teachers of computer science at higher education institutions. Based on the meaning of the term «task», attention is paid to the method and process of solving the problem. The content of the pedagogical problem, the process of modeling its content and methods of solution are analyzed, the stages of solving are described, highlighting the mental activity of the teacher. The methodological task is considered as a specially created contradiction, which reproduces the professional activity of the teacher (teaching process) and educational-cognitive activity of students (learning process), the solution of which integrates methodological, psychological-pedagogical and subject awareness of the higher education student. The peculiarity of methodological tasks is to take into account the specific content of the subject and didactic and methodological features of its study, the reflection of individual components of the methodological activities of the teacher. The methodological task integrates the main elements of methodological activity concerning planning and designing of educational process and its management by the teacher, and also predicts educational and cognitive actions of pupils. In the context of the content of the methodological activity of a computer science teacher in a general secondary education institution, the stages of solving the methodological problem are highlighted and their peculiarities in specific conditions are revealed. Examples of tasks from the discipline «Methods of teaching computer science» and the course of their solution are given. It is established that the process of solving methodological tasks cannot be fully algorithmized in the form of a clear sequence of actions of all participants in the educational process, and, therefore, it must contain standard professional actions of teachers, elements of creative decisions, based on awareness of the value of knowledge and experience which are reached in these conditions. Attention is drawn to the fact that the tasks should be worked out by students at all stages of higher education in sequence: from simple to complex, but with different didactic purposes and in compliance with organizational and pedagogical conditions. The analysis of the content of the future teacher's activity at the analytical-design, constructive-activity and reflective stages of the problem-solving process proves that in practice there is no clear distinction between the stages, as they interpenetrate and complement each other. Methodological tasks reflect the interpenetration of educational and professional activities, as the sequence of professional actions selected by students allows to move from theoretical awareness to activities in the specialty in a real simulated practical plane. The results of a survey of students studying in the specialty 014 Secondary Education (Informatics) to determine the difficulties they encountered during the development of syllabi for lessons in computer science and their reproduction in a simulated educational process are presented. It is noted that the appropriate and balanced involvement of students in solving methodological problems is based on the competence, activity paradigm in combination with a personal approach.

References

1. Volkova, N.P. (2012). *Modeliuvannia maibutnoi fakhovoi diialnosti vypuskniv u navchalnomu protsesi vyshchoi shkoly* [Modeling of future professional activity of graduates in the educational process of higher school]. *Visnyk Dnipropetrovskoho universytetu imeni Alfreda Nobelia. Pedagogika i psykholohiia. Pedagogichni nauky* [Bulletin of Alfred Nobel University of Dnepropetrovsk. Pedagogy and psychology. Pedagogical sciences], no. 1 (3), pp. 2-19. (In Ukrainian).
2. Diachenko, N.O. (2015). *Sutnist protsesu rozviazuvannia pedagogichnykh zadach* [The essence of the process of solving pedagogical problems]. *Science and Education a New Dimension. Pedagogy and Psychology*, no. III (29), issue 57, pp. 16-20. (In Ukrainian).

3. Lisina, L. (2019). *Formuvannia umin studentiv rozviazuvaty pedahohichni zadachi v umovakh dyferentsiiovanoho navchannia* [Formation of students' skills to solve pedagogical problems in the conditions of *differentiated learning*]. *Pidhotovka maibutnikh pedahohiv u konteksti standartyzatsii pochatkovoї osvity* [Preparation of Maybut pedagogues in the context of standardization of pochatkova education. Berdiansk, pp. 134-143. (In Ukrainian).

4. Milto, L.O. (2013). *Teoriia i tekhnolohiia rozviazuvannia pedahohichnykh zadach* [Theory and technology of solving pedagogical problems]. Kirovohrad, Imeks Publ., 155 p. (In Ukrainian).

5. Akimova, O.V., Haluziak, V.M., Voloshyna, O.V., Davydiuk, M.O., Kaplinskyi, V.V., Kolomiets, A.M., Stoliarenko, O.V., Stoliarenko, O.V., Frytsiuk, V.A., Khamska, N.B., Kholkovska, I.L., Shakhov, V.V., Shakhov, V.I. (2016). *Rozvytok profesiino vazhlyvykh yakosti u maibutnikh uchyteliv* [Development of professionally important qualities in future teachers]. Vinnytsia, Nilan Publ., 247 p. (In Ukrainian).

6. Sahan, O.V., Haran, M.S. & Liba, O.M. (2018). *Formuvannia metodyko-informatychnoi kompetentnosti vchytelia pochatkovykh klasiv* [Formation of methodological and informational competence of primary school teachers]. *Informatsiini tekhnolohii i zasoby navchannia*, vol. 65, no. 3, pp. 304-315. (In Ukrainian).

7. Topuzov, O.M. (2018). *Pedahohichna maisternist: rozvytok profesiino-pedahohichnoi adaptyvnosti ta sotsialnoi refleksii maibutnoho vchytelia* [Pedagogical skills: development of professional and pedagogical adaptability and social reflection of the future teacher]. *Pedahohichna dumka* [Pedagogical thought], 291 p. (In Ukrainian).

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