Dieniezhnikov, S.,
Candidate of Philosophical Sciences, Associate Professor,
Head of the Department of Educational Management and Pedagogy of Higher Education,
Sumy State Pedagogical University named after A.S. Makarenko, Sumy

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COMPUTER SUPPORT OF INNOVATIVE PEDAGOGICAL ACTIVITIES OF THE DEPARTMENT

Nowadays a new education system is being formed, oriented towards the global multicultural educational space. This process is accompanied by significant changes in pedagogical theory and practice of the educational process. In such conditions, a teacher must navigate a wide range of modern innovative approaches to the design of new-generation educational materials. The school of the information age faces the task of developing cognitive independence in the majority of students with the help of computer tools and environments to support pedagogical activity. The problem of creating a wide range of “new generation” educational materials and supporting the development of creative work of teachers and teaching staff for effective work with these materials is being solved.

The elimination of contradictions is possible by constructing systems of computer support for innovative pedagogical activity based on modern pedagogical theories with a focus on innovative didactic technologies using the pedagogical and telecommunication capabilities of the Internet, which will provide conditions for the modernization of the system of professional training of teachers.

The organization of the modern pedagogical process includes the use of both new educational literature integrating educational information and didactic innovations, and modern information technologies for organizing computer systems for supporting learning. The result of such a combination should be a qualitatively new pedagogical activity, in which the scheme is implemented: educational information + didactic innovations + computer support. In this regard, it is relevant to solve the problems of designing computer support systems as an integral element in the methodological support of the educational process.

The implementation of the tasks of informatization of education has caused the diversification of innovative pedagogical activity in the structures of the higher education system, in particular the department. This process is characterized by the

development of a new direction of innovative pedagogical activity, synthesizing didactic innovations aimed at creating new models of educational materials, and modern information technologies.

The structure of the model of computer support for innovative pedagogical activity reflects its directions, the specifics of the scientific and methodological work of the department, new forms of educational literature and types of practical tasks and includes as components: invariant structural elements of the support system (theoretical, reference and demonstration sections, simulators, feedback and content management blocks); types of software products for mastering the theory and developing practical skills, diagnostic tools.

The selection of software tools for computer support of innovative pedagogical activities of the department is carried out on the basis of quantitative indicators identified through the analysis of its structure and potential didactic properties, such as: information content – the ability to present information in various forms; dynamism – no binding to one subject area or to an instrumental platform; interactivity – the ability to change the parameters of an information object and quickly obtain a result in the process of its use; the presence of a convenient and functional interface.

The methodology for organizing electronic systems to support innovative pedagogical activity of the department includes three stages: theoretical, instrumental and practical. At the first stage, the content is transformed for its subsequent presentation in electronic form, which results in the creation of an innovative didactic product (innovative teaching technologies, computer educational games, non-traditional forms of practical assignments, electronic applications to new generation textbooks, etc.). At the second stage, software and instrumental means (computer programs, editors, Web technologies, instrumental shells, etc.) are selected that correspond to the specifics of the created educational material. At the third stage, the innovative pedagogical product and computer instrumentation are synthesized, the result of which is an innovative electronic educational product.

Teaching students and teachers to design innovative electronic educational materials based on Web-oriented tool environments stimulates the formation of: didactic competence, which is expressed in the ability to perform pedagogical design, select educational material and forms of its presentation; subject competence, which is expressed in the ability to prepare sets of educational materials in innovative form (facet tests, punch cards, dictionaries, educational relay races, etc.); information competence, which is manifested in the ability to create text, graphic, multimedia objects based on innovative models of educational materials.

The analysis of the evolution of innovative activities of the Department of Educational Management and High School Pedagogy of Sumy State Pedagogical University named after A.S. Makarenko provided grounds for identifying the main prerequisites for creating computer support systems for innovative pedagogical activities. At the same time, the concept of computer support was clarified, which includes:

- assistance to teachers in mastering new information and computer technologies; in forming, through Internet communications, creative teams of teachers working in various subject areas; in mastering methods of work in the educational information space using Internet resources;
- assistance in testing the results of innovative activities, their correction and implementation;
- assistance in mastering methods of transforming innovative pedagogical products from traditional form to computerized form, in creating new didactic models with an interactive component (new generation textbooks, innovative teaching and methodological complexes, educational information banks), in creating innovative teaching technologies based on the direct use of computer tools (Tyagay, 2025).

The result of the implementation of computer support was the diversification of innovative pedagogical activity in the direction of solving the problems of informatization of education, through the use of computer support systems for innovative pedagogical activity (IPA), including a set of computer technologies, tool shells and environments, specially selected and transformed for the organization of assistance in the development of innovative educational materials in computerized forms, interactive versions, as a result of which pedagogical software products (PSP) with new properties and expanded functions are created. The created PSP are focused on all the main components of the educational process and form an integral system.

The approaches to designing computer support for IPA are identified: empirical and theoretical. The empirical approach (designing based on intuition, common sense and personal pedagogical experience) leads to the creation of pedagogical products in the form of electronic reference systems with insufficient didactic efficiency.

The theoretical approach is based on a scientific foundation: the theory of pedagogical design, computer science, didactic properties of new information technologies, while the effectiveness of the PSP depends on the degree of compliance of the used computer programs with the features of the educational process. This approach ensures the creation of activity-based learning technologies and the corresponding software implementation (Olevsky, 2025).

The development of content for computer-supported learning materials required consideration of issues related to the structure of the scientific theories

being studied, as well as problems of the psychological theory of activity. Among the approaches to structuring learning theories, we gave preference to models that reflect the genesis of scientific theories.

Thanksgiven to computer support, an information and educational environment is created, which leads to changes not only in the methods, but also in the content of training, since infirnation technologies bring new possibilities to the educational process: computational, modeling, graphic, multimedia, telecommunication. In this case, graph and network models are widely used. Thus, the theoretical approach to the design of computer support systems for innovative pedagogical activity involves substantiating the structure and content of new computerized educational materials, taking into account the objectives of training, principles of organizing the educational process, and internal educational motivation.

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Лєдок М. В.,
викладач кафедри інформатики,
Комунальний заклад "Харківська
гуманітарно-педагогічна академія"
Харківської обласної ради, м. Харків

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ВИКОРИСТАННЯ МУЛЬТИМЕДІЙНИХ ТЕХНОЛОГІЙ У СУЧАСНОМУ ОСВІТНЬОМУ СЕРЕДОВИЩІ

У добу стрімких суспільних трансформацій однією з визначальних тенденцій постає всебічна інтеграція інформаційно-комунікаційних технологій у різні сфери людської діяльності, зокрема в освіту. Мультимедійні технології, як ключовий інструмент цього процесу, відіграють дедалі вагомішу роль у трансформації освітнього середовища. Їхнє застосування виходить за межі традиційних