

## PROJECT ACTIVITIES OF STUDENTS IN THE DIGITAL EDUCATIONAL ENVIRONMENT

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### ABSTRACT

*The project activity of students is a joint educational and cognitive, creative or game activity of students with a common goal, agreed methods, methods of activity aimed at achieving a common result of activity. From the standpoint improving the quality of education, all the main components of the pedagogical process are reviewed, their potential is analyzed, and new technologies are being created, one of the main design principles of which is compliance with the quality criterion. This article discusses the design of the educational process based on digital educational resources.*

**KEYWORDS:** *Project Activities, Educational Process, Student Development, Digitalization of Education, Multimedia Materials, Computer Programs.*

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### 1. INTRODUCTION

Currently, the processes of reforming and developing education are associated with the introduction of digital technologies. The digitalization of education largely determines fundamentally new approaches to the implementation of educational activities. Various types of digital education have found their application in educational practice and have shown their effectiveness. [1] In our Republic, the issue of creating and developing digital education is actively considered and supported, which would allow developing science, education, economy, providing jobs for the population of the country. The solution to this problem is seen, first of all, in the introduction of digital technologies into the project activities of students. Methodical activity determines the teacher's thinking. The methodological thinking of the teacher, in which he "lives", preparing the educational material for the lesson, is peculiar in many respects. The originality of methodical thinking is manifested in the means, aimed at the design of educational and cognitive activities, in the selection of means of visual representation of the content of chemical knowledge. In our opinion, the project activity of future chemistry teachers is one of the most effective ways to form independence and develop the creative potential of an individual. [2] At present, it is impossible to imagine a single occupation that would not be aimed at solving real life problems. Such tasks form students' opportunity to design a particular situation in which they themselves will carry out searches, tests, look for ways and means of action, tested in the course of solving professional problems. Currently, in the practice of education, the project method is actively used, which successfully solves not only educational problems but also educational tasks. The project is literally "thrown forward", and design is the process of creating a project. The project method enables students to actively express themselves in the system of public relations, contributes to the formation of a new social position in them, allows them to acquire skills in planning and organizing their activities, to discover and realize creative abilities, to develop the individuality of

the individual. The educational technology of project-based learning is not new in pedagogy, the project method was widespread in the United States by 1919. [3]

An indispensable condition for project activities is the presence of pre-developed ideas about the final product of activities, design stages (concept development, definition of the goals and objectives of the project, available and optimal resources for activities, creation of a plan, programs and organization of activities for the implementation of the project) and project implementation, including its understanding and reflection on the results of activities. [4] The project activity of students is one of the methods of developing (student-centered) learning, is aimed at developing independent research skills (posing a problem, collecting and processing information, conducting experiments, analyzing the results obtained), contributes to the development of creative abilities and logical thinking, combines the knowledge gained during the educational process and introduces vital problems. Project activities are focused on the use of knowledge, skills and abilities acquired during training, for the formulation and solution of practical problems that can be of both academic and applied nature. It allows students to participate in the creation of a specific result and learn how to work in a limited time, under the guidance of a real customer, present a project, work in a team, and also acquire professional communication skills with various contractors. Currently, design technologies are used in training because they provide an opportunity to investigate the problem in its development and obtain practical results, while using the latest pedagogical and information technologies today, the computer is becoming the first universal mass tool for working with all types of information. Modern computer programs make it possible to work in a new way with images, sound, video materials and texts, with calculations, with information models of various objects and others, including in teaching chemistry. [5]

With regard to teaching chemistry, along with increasing the motivation of learning by using the capabilities of a computer in the classroom, increasing the level of individualization of learning and the possibility of organizing operational control over the assimilation of knowledge, computer technologies can be effectively used to form basic concepts that clearly demonstrate certain processes necessary for understanding the micro world. (the structure of the atom, molecules), such important chemical concepts as "chemical bond", "electro negativity" in the study of high-temperature processes (non-ferrous and ferrous metallurgy), reactions with toxic substances (halogens), long-term chemical experiments (hydrolysis of nucleic acids), etc. When studying chemistry, students come across the objects of the micro world literally from the first lessons, and of course, educational computer models modeling such objects can become invaluable assistants in the visual presentation of educational information, for example, when studying the structure of atoms, types of chemical bonds, structure of matter, theory of electrolytic dissociation, mechanisms of chemical reaction, stereo chemical representations, etc. [6] The educational information helps to effectively control the educational work of each student. The range of his possible actions is increasing, while his responsibility for the effectiveness of educational work is growing. Extensive use of multimedia teaching materials, developed taking into account the requirements of pedagogical design, to a large extent, relieves teachers of responsibility for the "delivery of educational content", allowing them to concentrate on pedagogical support of students, organizational, pedagogical and educational work. Thus, the unfolding new stage of the digital revolution creates the basis for the use of digital technologies (DT) in education, which makes DT an accessible and reliable means of solving the assigned tasks. The essence of digital transformation of education is the personalization of the educational process based on the use of DH. Its main feature is that CTs help in practice to use new pedagogical practices (new models of organizing and conducting educational work), which previously could not occupy a worthy place in mass education due to the complexity of their implementation by means of traditional "paper" information technologies. In particular, the use of mental maps, interactive tests, web quests and

others contribute to the development of a person's creative abilities and research skills. Applying computer technologies as a means of project execution expands the possibilities of the student's creative self-realization, his abilities develop, since he has to work with the information necessary to disclose the topic of the project, and with the information necessary for the practical implementation of the project using certain software tools. In process, in order to carry out project work, students develop the following competencies: Reflexive skills; Search (research) skills; Skills and skills of working in cooperation; Communication skills; Presentation skills and abilities. [7] At the same time, the assessment of project work is aimed at determining the individual achievements of each student and does not imply how the comparison of the results demonstrated by other students, the assessment is focused on a specific student. All of the above creates the preconditions for the upbringing of a new, creatively active generation, prepared for life and work in the information society of the future.

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