

PROJECT ACTIVITY AS A WAY TO DEVELOP THE RESEARCH COMPONENT OF INNOVATIVE THINKING

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Abstract. *This article is dedicated to the that project is a learning method in which students gain knowledge and skills by working over a period of time to explore and solve a meaningful, interesting and complex question, problem or challenge. Project-based learning allows students to immerse themselves more deeply in the educational process, while students receive a clearer understanding subject knowledge, applying the acquired knowledge in new situations when solving complex problems, which ultimately creates a more meaningful, motivating learning environment that promotes: the development of 'XXI - century skills' such as critical thinking, problem solving, communication, collaboration, creativity, innovation, etc.; formation of the student's ability to approach new challenges of the time with confidence, perseverance; giving knowledge a contextual format, thus deepening the understanding of the material by students.*

Keywords: *skills, critical, thinking, innovative, project, challenges, student, ability, formation.*

Working on projects is one of the trends in both personal and professional life today, which is why project-based learning is becoming increasingly popular in education. Project activities help students develop real-world skills such as critical thinking, communication, the ability to solve significant problems that require a non-standard approach in the decision-making process, etc. At the same time, a well-structured project activity process can be used to help students acquire knowledge of academic disciplines, develop critical thinking, problem solving, collaboration, communication and self-management skills.

According to a leading organization in the field of project-based learning, a project is a learning method in which students gain knowledge and skills by working over a period of time to explore and solve a meaningful, interesting and complex question, problem or challenge. Project-based learning allows students to immerse themselves more deeply in the educational process, while students receive a clearer understanding subject knowledge, applying the acquired knowledge in new situations when solving complex problems, which ultimately creates a more meaningful, motivating learning environment that promotes: the development of 'XXI st century skills' such as critical thinking, problem solving, communication, collaboration, creativity, innovation, etc.; formation of the student's ability to approach new challenges of the time with confidence, perseverance; giving knowledge a contextual format, thus deepening the understanding of the material by students.

Students work on short-term and long-term projects while solving a real problem or getting an answer to a difficult question. This process allows them to show what they know

and can do by presenting the project product in an accessible format that reflects the knowledge and skills they have acquired.

Project-based learning allows students not only to act, but also to think differently about themselves – not as students, but as researchers, creators, and co-authors. To assess the possibility of using project activities in the process of forming innovative thinking of younger schoolchildren.

It is important to understand the essence of innovative thinking, considered in detail by Akhmetzhanova G.V. and Yemelyanova T.V. From the authors' point of view, two fundamental differences between innovative thinking and other types of thinking are important – its cognitive and instrumental nature.

The cognitive nature of innovative thinking is understood as ‘the obligatory internal reflection of a person in the process of interacting with the surrounding material world, obtaining new knowledge and including it in the overall picture of the world (general understanding).’ Thus, the knowledge gained is necessarily reinterpreted by the subject through his life experience, his personal needs, and emotional state. In such a situation, the knowledge side is an organic part of the child's personality and becomes his asset and tool in interacting with the outside world. In relation to project activities, this is completely fair, since students solve real, personally significant problems for them, applying the knowledge gained during the development of academic disciplines. The instrumental nature of innovative thinking is ‘the objectification and implementation of new knowledge in practice.’ That is, it is closely related to the cognitive aspect and is its logical continuation. However, if the creative, scientific and theoretical principle is of particular importance in the cognitive aspect, then pragmatism and constructiveness come first in the instrumental aspect.

But it is here that new, particular problems arise, the solution of which again requires the student to complete a full cycle of innovative thinking. There is a kind of fractality: ‘one big problem at the instrumental stage is divided into many mini-problems, the solution of each of which, in turn, is carried out through both cognitive and instrumental aspects.’

Due to such complexity and complexity of the process of innovative thinking, it is impossible to clearly determine at which stage, cognitive or instrumental, innovative thinking is implemented at a certain point in time. Therefore, the educational process must be built in such a way that the formation of innovative thinking takes place through both aspects simultaneously, or through their interaction.

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