DEVELOPING STUDENTS' CREATIVE COMPETENCIES THROUGH PROJECT-BASED LEARNING TECHNOLOGY

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Annotation. This article examines the pedagogical and methodological opportunities for developing students' creative competencies through project-based learning technology. The essence and main stages of project-based learning are analyzed, as well as its significance in developing students' abilities in independent thinking, identifying and solving problems, generating new ideas, applying creative approaches, searching for and processing information, working in teams, and evaluating their own activities. The article also considers effective methods for organizing the main stages of project activities, including selecting a project topic, defining goals and objectives, collecting information, creating a project product, presenting results, and evaluating the outcomes. It is substantiated that project-based learning contributes to transforming students from passive recipients of ready-made knowledge into active participants in the educational process who are capable of conducting independent research, generating new ideas, and creating practical outcomes.

Keywords: project-based learning, project-based learning technology, creative competence, creative thinking, independent learning, problem-based situation, innovative education, project activity, teamwork, research skills, creative activity.

Annotatsiya. Mazkur maqolada loyiha asosida o‘qitish texnologiyasi orqali o‘quvchilarning ijodiy kompetensiyalarini rivojlantirishning pedagogik va metodik imkoniyatlari yoritilgan. Loyiha asosida o‘qitishning mazmun-mohiyati, asosiy bosqichlari hamda uning o‘quvchilarda mustaqil fikrlash, muammolarni aniqlash va hal qilish, yangi g‘oyalarni ilgari surish, ijodiy yondashish, axborotni izlash va qayta ishlash, jamoada ishlash hamda o‘z faoliyatini baholash ko‘nikmalarini shakllantirishdagi

ahamiyati tahlil qilingan. Shuningdek, loyiha mavzusini tanlash, maqsad va vazifalarni belgilash, axborot to‘plash, loyiha mahsulotini yaratish, natijalarni taqdim etish va baholash bosqichlarini samarali tashkil etish metodikasi ko‘rib chiqilgan. Loyiha asosida o‘qitish o‘quvchini tayyor bilimni o‘zlashtiruvchi emas, balki mustaqil izlanadigan, yangi g‘oyalar yaratadigan va amaliy natija ishlab chiqadigan faol ta’lim subyekti sifatida shakllantirishga xizmat qilishi asoslangan.

Kalit so‘zlar: loyiha asosida o‘qitish, loyiha texnologiyasi, ijodiy kompetensiya, ijodiy fikrlash, mustaqil ta’lim, muammoli vaziyat, innovatsion ta’lim, loyiha faoliyati, hamkorlikda ishlash, tadqiqotchilik ko‘nikmalari, ijodiy faoliyat.

Аннотация. В данной статье рассматриваются педагогические и методические возможности развития творческих компетенций учащихся посредством технологии проектного обучения. Проанализированы сущность и основные этапы проектного обучения, а также его значение в формировании у учащихся навыков самостоятельного мышления, выявления и решения проблем, выдвижения новых идей, творческого подхода, поиска и обработки информации, работы в команде и оценки собственной деятельности. Кроме того, рассматривается методика эффективной организации таких этапов проектной деятельности, как выбор темы проекта, определение целей и задач, сбор информации, создание проектного продукта, презентация результатов и их оценивание. Обосновано, что проектное обучение способствует формированию учащегося не как пассивного получателя готовых знаний, а как активного субъекта образовательного процесса, способного самостоятельно исследовать, генерировать новые идеи и создавать практические результаты.

Ключевые слова: проектное обучение, технология проектного обучения, творческая компетентность, творческое мышление, самостоятельное обучение, проблемная ситуация, инновационное образование, проектная деятельность, командная работа, исследовательские навыки, творческая деятельность.

One of the important tasks facing the modern education system is not only to provide students with ready-made knowledge, but also to develop their abilities to think

independently, demonstrate creativity, generate new ideas, solve problems, and apply their knowledge in practical activities. In the modern labor market and social environment, possessing theoretical knowledge alone is not sufficient. A person needs to be able to adapt to new situations, approach problems in unconventional ways, propose new ideas, and transform these ideas into practical outcomes. Therefore, developing students' creative competencies is considered one of the important tasks of contemporary education.

Creative competence is a set of abilities that enables a student to generate new ideas, find unconventional solutions to existing problems, combine different types of knowledge and skills, and create a new product or outcome. The development of such competence cannot be achieved solely through the provision of theoretical information. It requires engaging students in active inquiry, experimentation, independent decision-making, and practical activities. Project-based learning is one of the effective pedagogical technologies that creates such opportunities. This technology directs students to independently or collaboratively study a specific theoretical or practical problem, search for solutions, and ultimately create a concrete project product. Through project activities, students not only acquire knowledge but also have the opportunity to apply their knowledge to real-life situations, think independently, collaborate with others, and make creative decisions. Project-based learning is an educational technology based on students' independent or collaborative investigation of a particular problem, collection and analysis of relevant information, development of solutions, and creation of a specific result or product. The outcome of a project may take the form of a presentation, research paper, model, prototype, video, electronic product, practical recommendation, creative work, or another relevant format. The main feature of project-based learning in developing creative competence is that students do not simply follow a predetermined algorithm. They identify a problem, propose their own ideas, consider different alternatives, and select the most appropriate solution. This process itself creates an important pedagogical environment for the development of creative thinking.

The first stage of project-based learning involves selecting a topic and identifying a problem. The teacher offers problems that correspond to students' age, interests, abilities,

and the content of the subject. At the same time, providing students with the opportunity to independently choose a project topic can produce even more effective results. When students work on a topic that interests them, their motivation, active participation, and creative engagement tend to increase.

For example, in biology, students may work on a project entitled “Improving the Ecological Environment of the School Area”; in geography, “Exploring the Tourism Potential of the Local Area”; in physics, “Developing an Energy-Efficient Device Model”; in computer science, “Designing a Mobile or Web-Based Educational Project”; and in language and literature, “Digitizing Local Literary Heritage.” Such topics help students connect theoretical knowledge with real-life situations. The next stage involves defining the goals and objectives of the project. The goal should be formulated clearly, understandably, and realistically. The objectives describe the specific activities that need to be completed in order to achieve the main goal. This stage develops students’ planning skills and their ability to organize purposeful activities. The stage of information search and research is particularly important in project-based learning. Students collect information related to the project topic using textbooks, books, scientific sources, and digital resources. In this process, students should be taught not simply to collect information, but also to evaluate its reliability, compare different sources, and identify relevant information. As a result, their information literacy and critical thinking skills are also developed.

The process of generating ideas plays an important role in developing creative competence. Students can be asked to propose several possible solutions to a single problem. For example, they may develop different proposals for solving an environmental problem, create several design options for a product, or suggest alternative ways of improving a particular process. Such activities develop divergent thinking, which is the ability to approach a problem from different perspectives and generate multiple possible solutions.

Collaborative work in small groups is also highly effective for developing students’ creative competencies. Group members distribute tasks among themselves, exchange

ideas, discuss different perspectives, and reach a common decision. Each student has an opportunity to express and justify their own ideas. Listening to the ideas of other students also teaches them to consider problems from different perspectives.

The creation of the project product is one of the most important stages for demonstrating students' practical and creative abilities. At this stage, students transform their knowledge and ideas into a concrete product. The type of product depends on the purpose of the project and may include a model, prototype, presentation, video, electronic application, brochure, research report, practical recommendation, or other form of output.

Presenting project results is also highly important for the development of creative competencies. Students explain their work to others, describe the objectives, process, and outcomes of the project, and respond to questions from the audience. This process develops communication skills, the ability to express ideas clearly and logically, argumentation skills, and public speaking abilities.

An important aspect of project-based learning is the evaluation of results. Assessment should focus not only on the final product but also on the entire project process. The following criteria can be considered: correct identification of the problem, ability to search for and analyze information, generation of new ideas, collaboration within the group, independent decision-making, practical significance of the project product, and quality of the final presentation.

When assessing creative competence, it is also important to approach students' mistakes from a pedagogically appropriate perspective. In creative activities, it is natural that not all ideas will be perfect from the first attempt. Teachers should present mistakes not merely as shortcomings, but as opportunities for searching for new solutions. Such an approach encourages students to express their ideas freely and reduces their fear of proposing new or unconventional solutions.

The role of the teacher also changes within project-based learning. Instead of functioning only as a source of knowledge, the teacher becomes an organizer, facilitator, advisor, and coordinator of project activities. The teacher provides guidance when

selecting the project topic, recommends appropriate resources, monitors students' progress, and provides methodological assistance when difficulties arise.

To increase the effectiveness of project-based learning, projects should be connected with real-life situations. When students understand that the results of their projects have practical value, their interest in learning increases. For example, projects aimed at reducing waste at school, using water and electricity efficiently, promoting reading, improving the school environment, or investigating a particular problem in the local community can also contribute to students' social responsibility and civic engagement.

The use of digital technologies in project activities further expands students' creative opportunities. Students can use electronic presentations, graphic design programs, video materials, online surveys, digital maps, and other technological tools to develop and present their projects in modern formats. In this way, digital competence and creative competence are developed simultaneously.

Another important outcome of project-based learning is the development of students' ability to evaluate their own activities and engage in reflection. At the end of a project, students can analyze their work by answering questions such as: "What did I learn?", "What difficulties did I encounter?", "How did I solve the problem?", "What was my contribution to the project?", and "What could I improve next time?" This process helps students understand their own capabilities and improve their future activities.

Overall, project-based learning technology creates favorable pedagogical conditions for developing students' creative competencies. Through this technology, students not only acquire knowledge but also learn to apply it in practical activities, generate new ideas, solve problems, collaborate with others, and evaluate their own performance.

In conclusion, project-based learning technology is one of the effective and modern methods for developing students' creative competencies. This technology transforms students into active participants in the educational process and contributes to the development of their independent thinking, creative approach, research skills, and practical abilities.

During project activities, students identify problems, define goals and objectives, search for information, generate different ideas, analyze possible solutions, create project products, and present their results. Each of these processes contributes to the development of important components of creative competence.

For project-based learning to be effective, project topics should correspond to students' age and individual characteristics and should have practical and real-life significance. Students should be given opportunities to make independent decisions, while both the process and final product should be considered when evaluating their performance. The teacher, in turn, should act primarily as a facilitator who guides and supports students in their independent inquiry and creative activities.

Therefore, the systematic implementation of project-based learning technology in the educational process enables students to develop creative thinking, independent inquiry, problem-solving, teamwork, information-processing, and the ability to transform ideas into practical outcomes. This contributes to one of the major goals of modern education: developing creative, independent, proactive, and competent individuals who are capable of adapting to changing conditions and generating innovative solutions.

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