

## PROJECT METHOD IN THE TRAINING STUDENTS OF TECHNOLOGICAL PROFILE

**Vitalii Savchenko**

Lecturer, Pavlo Tychyna Uman State Pedagogical University, Ukraine

e-mail: vvsat24@ukr.net, orcid.org/0000-0001-9140-1683

### Summary

The article discusses the problem of using the project method in the training of students of a technological profile in a higher education institution. Particular attention is paid to the project method using in teaching the discipline "Technological Practicum". The analysis of the latest researchers show that project activity in the process of training specialists of technological and other profiles is considered by scientists as the most important method of successful formation of professional competence of future specialists. The author has singled out the such types of projects: research, creative, game, informational, practice-oriented. It was concluded that using the project method in the training of students of a technological profile in a higher education institution is aimed at socially significant psychophysical, moral and intellectual development, strengthening their aptitudes and abilities, their essential strengths and vocation; involvement of students in successful work and the system of universal moral values; formation and satisfaction of their activity and cognitive requests and needs; creating conditions for self-determination, creative self-expression and continuous education.

**Key words:** project method, training, future specialist, technological profile, students.

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### 1. Introduction

In the modern world, education is considered as a process aimed at the development and self-development of future specialists. The growing flow of information, the development of technology and production technologies requires a change in the educational paradigm: not education for life, but education throughout the life. The transition from an industrial to a post-industrial society increases the demand for a creative person who is able to find non-standard ways to solve existing problems. In this regard, technologies, including the project method, acquire particular importance.

The problem of choosing the most effective innovative methods and technologies remains significant and relevant. The main goal of introducing innovative methods into education is the development of skills to motivate the students, to teach them to navigate in the information space, to form creative non-standard thinking. Recently, innovative teaching methods, including the project method, have been actively used in institutions of higher education (*Bezliudnyi O.I., Bezliudna V.V., Shcherban I.Iu., Komar O.C., 2019 : 86*).

Analysis of the latest research and publications show that project activity in the process of training specialists of technological and other profiles is considered by scientists (O. Bezliudnyi, O. Kobernyk, N. Myronchuk, O. Omelchuk, S. Tkachuk, etc.) as the most important method of successful formation of professional competence of future specialists.

The process of effective formation of project competencies of future specialists is possible when using project training as a didactic technology and observing a number of pedagogical conditions: integration of psychological and pedagogical, subject and methodical knowledge; creation of a model situation of involvement in the design process (originating the idea of project activity, development of the project idea and its implementation); the use of various organizational forms and methods of organizing students' independent educational activities and their support.

The purpose of the article is to highlight the peculiarities of using the project method in the training of students of a technological profile in a higher education institution.

## 2. Methods and materials

The realization of the purpose of the study includes such research methods: systematic and logical analysis; generalization of the latest scientific publications related to the analysis of technological profile students of training in a higher education institution; method of synthesis of information of key professional competencies that are formed in the process of training of students of a technological profile in a higher education institution.

## 3. Main text

The project method is becoming more and more widespread in all educational disciplines, in particular in the subject "Technological practicum" (Pavlo Tychyna Uman State Pedagogical University), which develops creativity and includes an experimental component not only at the heuristic, but also at the inventive level. In higher pedagogical educational institutions, the teaching of the discipline "Technological practicum" is mainly focused on the planning and technological sequence of labor operations, which requires students to demonstrate independence, study literature, apply technological knowledge in practice, and analyze and synthesize the received information.

The project method is a learning system in which students acquire knowledge and skills in the process of planning and performing progressively more difficult practical tasks-projects (Myronchuk N. M., 2017: 79).

N. Myronchuk believes that the use of the project method during studying of educational disciplines of the professional and pedagogical direction in the training students' contributes to the creation of conditions for information search and assimilation or deepening of professional knowledge, development of abilities and skills of self-organization in professional and pedagogical activities; develops criticality and flexibility of thinking; forms the ability for creative search and innovative activity.

The scientists (Kobernyk O. M., 2008; Tkachuk S., 2007) single out the following types of projects: research, creative, game, informational, practice-oriented. In order to form the self-organizational abilities of students, we directed their activities to the development of practically oriented projects. At the same time, the content of the project task was focused on the social and professional interests of the designers, and the result of the project activity was predicted (document, diary, program, plan, recommendations, etc.).

With the help of the project method, it is possible to establish strong connections between the students' theoretical knowledge and their practical transformative activity. The humanistic orientation of students' activities based on taking into account the human factors of creation

creates prerequisites for the formation of such personal qualities in students as technical thinking, as well as determination and will in the process of implementing their own developments into practice.

Considering the project method in the context of students training of a technological profile, we adhere to the definition of S. Goncharenko, who considers it in the aspect of the organization of training, when knowledge and skills are acquired in the process of planning and performing practical tasks – projects (*Honcharenko S. U., 1997*).

The use of project-based technologies in student training requires the development of the technological infrastructure of the educational environment. This means the introduction of computer equipment, network support, information terminals, educational and methodological techniques, and technical support for project technologies, as well as the development of a strategy for equipping educational institutions with the necessary educational software (*Kozak L., Vrublevska T., Matushevych L., Buhera Y., Bilevych S., 2022*).

In modern educational practice, various pedagogical technologies are used, which ensure the activation of students' creative abilities. In the educational field "Technology" the most productive are project-based creative learning technologies. In the process of project activities, students develop their creative potential and learn the basic laws of building modern technologies. The most effective in the educational sense are the project method, modern methods of creating new technical and technological solutions.

Project learning can be considered as a didactic system, and the project method – as a component of the system, as a pedagogical technology that involves not only the integration of knowledge, but also the application of updated knowledge and the acquisition of new ones. Various methods are used to comprehensively solve learning tasks, including the implementation of creative projects, the purpose of which is to involve students in the process of transformative activity from the development of an idea to its implementation (*Omelchuk O., Shabaha V., 2016*). Taking into account the interests of students, the teacher helps them to choose the direction, purpose and content of educational activities in the zone of immediate development, ways and forms of its implementation, methods of analysis and evaluation of the result, to build activities for the implementation of the project.

In pedagogical practice, the use of the project method can purposefully solve the tasks of individually oriented education. The effectiveness of this method is due to the fact that it allows students to choose an activity based on their interests, which corresponds to their abilities, and is aimed at forming their knowledge, skills and abilities. Carrying out projects, students master the algorithm of innovative creative activity, learn to independently find and analyze information, obtain and apply knowledge from various fields, fill gaps, gain experience in solving creative tasks.

The project is complex in nature, that is, its implementation can use knowledge and skills in several sections of the program (for example, materials processing). This possibility cannot be excluded when the project is carried out within the framework of only one section. To complete projects, students need theoretical and practical skills and knowledge of other disciplines.

As practice shows, by developing and implementing projects, students develop the skills of thinking, searching for information, analysis, experimentation, decision-making, independent work and working in groups. Projects can be done individually or in groups. During group work, students learn the material in a joint innovative form of its study, discussion and mutual learning with the development of a generalized, collective solution.

Working in groups, students gain experience in complex problem solving with the distribution of functions and responsibilities among group members. At the same time, the emphasis

in the educational process is on the formation of cooperation skills focused on the process of joint activity, in relation to skills focused on a specific result. In a number of foreign universities, especially those of a technical profile, project-based learning is structured in such a way that, firstly, it involves the mandatory completion of a semester-long group project, and secondly, the assessment of both the student's group work within the framework of a joint project and individual contribution to its implementation.

When the project is carried out under the direct guidance of the mentor, students consistently implement their recommendations on the course of action, one should speak of an executive project. Implementation of such projects is inevitable at the initial stage of using project-based learning, as students do not have enough experience to independently search. In this case, the teacher does not impose his opinions, but introduces options for the discussion of joint actions, showing the logic of building a project activity, going through the path of creating a project together with the students.

If the students put forward the project idea themselves, developed an action plan and implemented it, creating a real, high-quality, innovative product, then this project can be characterized as creative.

Each project has its own focus. It helps to understand which stages of activity should be given the main attention and how to change the project tasks in order to achieve the set pedagogical goals.

At the first stage of design, all future actions are designed in a theoretical form with the mandatory identification of possible problems and contradictions and the development of options for overcoming them. At the second stage, ideas are tested (implemented) in practical activities. All practical actions are carried out on the basis of the developed activity strategy. As the project progresses, theoretical developments may be refined and specified, corrections may be made to them. The general structure of activities that reproduces (models) the basic regularities of design technology remains unchanged.

#### **4. Conclusions**

Therefore, using the project method in the training of students of a technological profile in a higher education institution is aimed at socially significant psychophysical, moral and intellectual development, strengthening their aptitudes and abilities, their essential strengths and vocation; involvement of students in successful work and the system of universal moral values; formation and satisfaction of their activity and cognitive requests and needs; creating conditions for self-determination, creative self-expression and continuous education.

Further research is focused on improving teaching activities in the educational technology space, which ensure the quality of education of students of a technological profile in a higher education institution.

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