



USING THE PROJECT METHOD IN TECHNOLOGICAL EDUCATION

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Abstract

This article analyzes the scientific-theoretical foundations, pedagogical significance, and practical opportunities of using the project method in technological education. It also highlights the role of the project method in developing students' independent thinking, creative abilities, practical skills, and professional competencies. Innovative approaches to using the project method in the modern educational process, foreign experiences, and its effectiveness in technology education are scientifically substantiated. During the research, it was determined that the application of the project method increases students' interest in lessons, practical activity, and learning effectiveness. At the end of the article, scientific and practical recommendations for improving the project method were developed.

Keywords: Technological education, project method, pedagogical technology, innovative education, interactive methods, competence, practical training, creative thinking, STEAM education, independent learning, professional skills.

Introduction

Аннотация:

В данной статье проанализированы научно-теоретические основы, педагогическое значение и практические возможности использования метода проектов в процессе технологического образования. Также раскрыта роль проектного метода в развитии самостоятельного мышления,



творческих способностей, практических навыков и профессиональных компетенций учащихся.

Ключевые слова: Технологическое образование, метод проектов, педагогическая технология, инновационное образование, интерактивные методы, компетенция, практические навыки, креативное мышление, STEAM-образование, самостоятельное обучение.

Introduction:

Today, the reforms being implemented in the education system require the development of students' independent thinking, the formation of practical skills, and the development of modern professional competencies. Especially in technological education, it is important to connect students' theoretical knowledge with practical activities. Therefore, the use of innovative pedagogical technologies in the educational process is considered one of the urgent issues.

The use of the project method in technological education is an important tool for developing students' creative and critical thinking, forming problem-solving skills, and improving independent work abilities. Through this method, students learn the stages of creating practical projects, planning technological processes, selecting materials, and developing finished products.

The project method is widely used in the educational systems of developed countries. In particular, in countries such as the USA, Germany, South Korea, and Japan, the main part of technological education is organized based on practical projects. This contributes to improving students' professional training and preparing qualified specialists for the labor market.

In Uzbekistan, large-scale work is also being carried out to modernize technological education, introduce innovative methods, and improve the effectiveness of practical training. However, there are still problems such as the low level of use of the project method in some educational institutions, insufficient material and technical resources, and limited modern methodological support. Therefore, studying the scientific and theoretical foundations of the effective use of the project method is of great importance.

Research Methodology:

During this research, methods such as pedagogical observation, comparison, analysis, generalization, statistical analysis, and the study of scientific sources were used. During the study, scientific works of local and foreign scholars, methodological manuals, and educational standards related to the use of the project method in technological education were analyzed.

In addition, to determine the effectiveness of the project method in technological education, the process of practical training was observed, and students' knowledge levels and practical skills were evaluated. Based on the research results, scientific and practical recommendations for improving the use of the project method were developed.

Analysis and Results:

The use of the project method in technological education is considered one of the modern pedagogical approaches that activates students' learning activities. This method transforms students from ordinary listeners into active participants and encourages them to engage in independent research.

In project-based lessons, students perform stages such as identifying problems, planning, organizing practical activities, and presenting final results. Analyses show that the use of the project method significantly develops students' practical skills. In particular, in technological education, this method provides high effectiveness in product design, construction work, material processing, and product manufacturing processes. Students gain the opportunity to connect theoretical knowledge with practice during lessons.

One of the important aspects of the project method is the development of students' creative thinking and innovative approaches. While working on projects, students generate new ideas, create designs, and independently seek solutions to problems. This contributes to increasing their creative potential.

Analysis of foreign experience shows that the use of the project method is one of the key factors in improving the quality of education in developed countries. In particular, project activities based on the STEAM approach are widely introduced in the educational systems of Finland and South Korea. As a result, students' technical thinking, engineering abilities, and innovative thinking are developing. The use of the project method in technological education also develops students' communicative competence. During group work, they cooperate with each other,



exchange opinions, and acquire teamwork decision-making skills. This is important for their future professional activities.

In recent years, opportunities for using the project method based on digital technologies have expanded. Computer programs, 3D modeling systems, electronic platforms, and multimedia tools are increasing the effectiveness of technological education. In particular, virtual laboratories and digital design systems serve to strengthen students' practical training.

However, there are also some problems in the use of the project method. In particular, the lack of technical equipment in some educational institutions, the shortage of qualified teachers, and problems in time allocation negatively affect the effective implementation of the project method. Therefore, it is necessary to strengthen the material and technical base of educational institutions and improve teachers' methodological training.

Conclusion and Recommendations:

The results of the study showed that the use of the project method in technological education is an effective pedagogical tool for increasing students' learning activity, developing practical skills, and forming professional competencies. This method contributes to the development of students' independent thinking, creative approaches, and innovative activities.

In addition, the use of the project method makes it possible to connect the theoretical and practical aspects of technological education. By working on real projects, students gain experience in problem-solving, product creation, and teamwork.

During the research, some problems negatively affecting the use of the project method were identified. In particular, the lack of technical tools, insufficient methodological support, and the shortage of qualified specialists were assessed as the main problems.

To eliminate these problems, the following recommendations were developed:

- modernizing technological education workshops;
- increasing methodological manuals related to the project method;
- organizing practical seminars and training for teachers;
- widely introducing STEAM and digital technologies;
- developing cooperation with industrial enterprises;
- creating a support system for innovative projects.



In general, the effective use of the project method in technological education is important for improving the quality of education, strengthening students' professional training, and preparing competitive specialists suitable for the modern labor market.

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