

## HISTORICAL DEVELOPMENT AND PROSPECTS OF TECHNOLOGY EDUCATION IN GENERAL SECONDARY SCHOOLS

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### Annotation:

This article analyzes the formation, historical stages of development, and current condition of technology education in general secondary schools. It explains how the subject initially emerged as labor education focused on manual skills and gradually evolved through the integration of scientific and technological advancements. The article also examines existing challenges in teaching technology education and outlines future prospects, including the implementation of modern technologies, innovative teaching methods, and interdisciplinary approaches. Special attention is given to the role of technology education in developing students' practical, creative, and vocational skills.

### Keywords:

technology education, labor education, historical development, education system, innovation, practical skills, vocational training, curriculum, modern technologies, STEAM, digital skills, prospects

### Introduction

In modern education systems, increasing attention is being paid to the development of students' practical competencies and technological literacy. Technology education has become one of the key subjects that prepares students for real-life activities and future professions. Historically, technology education originated as labor education, which mainly aimed at teaching students basic manual work skills such as sewing, woodworking, and simple handicrafts. However, with the rapid development of science, industry, and digital technologies, the content and objectives of this subject have significantly changed.

Today, technology education not only focuses on manual labor but also includes modern areas such as engineering basics, design, robotics, information technologies, and innovative production processes. This transformation reflects the growing demand for skilled and creative specialists in society.

### Main Part

The historical development of technology education in general secondary schools can be divided into several important stages.

At the initial stage, technology education was primarily focused on labor training. Students were taught basic manual skills and simple crafts. The main objective during this period was to develop diligence, accuracy, and basic work habits. The second stage began with the development of industrial production. During this period, the content of the subject expanded to include knowledge about machines, tools, and production technologies. Students

started to learn about technical processes, mechanisms, and the basics of engineering. This stage played an important role in preparing students for industrial professions.

The third stage is associated with the scientific and technological revolution. During this period, technology education began to integrate elements of physics, mathematics, and engineering. The focus shifted from simple manual labor to understanding technological processes and developing technical thinking. At the present stage, technology education is undergoing rapid transformation due to digitalization and globalization. Modern technology education includes areas such as information and communication technologies (ICT), robotics, 3D modeling, programming, and design. The use of computers and digital tools has become an integral part of the learning process. In addition, modern educational approaches such as STEAM (Science, Technology, Engineering, Arts, and Mathematics) are widely being implemented. These approaches emphasize interdisciplinary learning and help students develop creativity, critical thinking, and problem-solving skills.

Despite these positive developments, several challenges still exist in the teaching of technology education. One of the main problems is the lack of modern equipment and technical resources in many schools. Without proper tools and laboratories, it is difficult to organize effective practical lessons. Another important issue is the insufficient qualification and training of teachers. Technology education requires teachers to have not only pedagogical knowledge but also practical technical skills and the ability to work with modern technologies. Therefore, continuous professional development is necessary.

Moreover, the curriculum needs to be regularly updated in accordance with technological advancements and labor market demands. In some cases, the content of textbooks and programs does not fully reflect modern technological trends. Looking toward the future, the development of technology education should focus on several key directions. First, it is necessary to introduce modern equipment and digital technologies into schools. Second, innovative teaching methods such as project-based learning and problem-based learning should be widely applied.

Furthermore, special attention should be paid to developing students' independent thinking, creativity, and entrepreneurial skills. Cooperation between schools and industries can also play an important role in improving the quality of technology education.

### **Conclusion**

In conclusion, technology education has undergone a long and complex historical development, evolving from simple labor training to a modern interdisciplinary subject. Today, it plays a crucial role in preparing students for future professional activities and developing their practical and technical skills. By addressing existing challenges and introducing modern educational approaches, the effectiveness of technology education can be significantly improved. In the future, this subject will continue to play a key role in training competitive, innovative, and highly skilled specialists who can meet the demands of a rapidly changing technological world.

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