

ADVANTAGES OF INTRODUCING THE DUAL EDUCATION SYSTEM IN TECHNICAL COLLEGES

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Abstract

In this research work, the advantages, problems, and effectiveness of implementing a dual education system in technical schools were analyzed. In the study, foreign and domestic experience was studied, and the theoretical and practical foundations for the development of the dual education system in the conditions of Uzbekistan were developed. From a scientific and methodological point of view, analytical, statistical, survey, and experimental methods were used to study the effectiveness of the system and its impact on the quality of education. The research results showed that dual education plays an important role in enriching the educational process with practical skills, increasing graduate employment rates, and reducing the shortage of qualified personnel in the economy. Existing problems in organizing effective cooperation with manufacturing enterprises, security, and training of qualified personnel were also analyzed. The research results include practical recommendations for the modernization of the education system and the formation of state policy.

Keywords: Dual education, technical school, vocational education, practical skills, employment, quality of education, production cooperation, qualified personnel, education system.

Introduction

The dual education system is a form of education that combines the theoretical and practical parts of the educational process, in which students not only receive theoretical knowledge in an educational institution, such as a school or technical school, but also strengthen practical skills in production or service areas. This system ensures close integration of education and production, increasing the readiness of graduates for the labor market.

The origin of the dual education system goes back to the developed countries of Europe. In particular, in such countries as Germany and Austria, this system has been developing for centuries and has proven its effectiveness. The dual education system in Germany was formed in the 19th century during the Industrial Revolution, in which young people acquired theoretical knowledge in educational institutions, learning practical skills at workplaces. This

approach has contributed to the country's training of a highly qualified workforce and is still being effectively applied.

Today, the dual education system is considered one of the most innovative and successful forms of education in many countries. This system is an important tool for students to gain practical experience, quickly adapt to the workplace, and improve their qualifications, especially in technical and vocational education.

In recent years, special attention has been paid to the development of the dual education system in the Republic of Uzbekistan. State programs and legislative acts define measures to introduce dual education in technical schools and expand cooperation with production. This will allow us to move to a new stage of training qualified personnel in our country [1,2].

Thus, the dual education system not only deepens students' theoretical knowledge, but also significantly improves the quality of education by preparing them for real working conditions. Today, as a result of the comprehensive development of the economy and the introduction of new technologies, the system of training qualified personnel is becoming increasingly relevant. In particular, technical and vocational educational institutions - technical schools play an important role in training specialists necessary for the country's industrial and service sectors. However, at present, due to the fact that traditional forms of education are often insufficiently connected with practice, the readiness of graduates for work may be low.

It is necessary to improve the education system in technical schools and adapt it to modern requirements. Especially in the educational process, the consolidation of practical skills along with theoretical knowledge is of great importance in improving the quality of education. Therefore, the introduction of a dual education system is an effective tool for orienting the educational process in technical schools in accordance with the needs of the labor market.

In the conditions of Uzbekistan, the role of technical schools in the economy is increasing, as large projects are being implemented in the country for the development of industries and the service sector. This increases the demand for skilled labor. Therefore, improving the education system in technical schools and developing cooperation with employers is becoming a pressing issue.

Thus, one of the important tasks today is the adaptation of the education system in technical schools to modern requirements and the need to improve students' practical skills and expand employment opportunities through the introduction of dual education [3].

Technical and vocational education is one of the main factors in training qualified personnel necessary for the country's economy. Especially today, as a result of the widespread introduction of new technologies in industry and the service sector, the practical skills and adaptability of students to the labor market are becoming increasingly important. Therefore, it is important to introduce a dual education system in technical schools to make the educational process more effective and train a qualified workforce.

The relevance of the topic lies in the fact that in traditional educational systems, the harmony of practice and theoretical knowledge is not sufficiently ensured. This negatively affects the professional training of graduates and reduces their employment rate. The dual education



system serves to eliminate this problem by combining theoretical knowledge and practical skills.

The purpose of this study is to study the advantages of implementing a dual education system in technical schools, to analyze its impact on the quality of education, the professional qualifications of students, and their adaptability to the labor market. The research results will help to develop practical recommendations for improving the educational process in technical schools and the widespread introduction of dual education [4,5].

✓ KEY ADVANTAGES

Practical Preparation

Direct adaptation of students to real working conditions and enhancement of professional readiness

Employment Opportunities

Facilitating graduates' entry into the labor market and expanding job opportunities

Theory & Practice Integration

Successful combination of theoretical knowledge with practical skills

Effective Collaboration

Establishing strong partnerships between educational institutions and manufacturing enterprises

Figure 1. Dual learning benefits

LITERATURE ANALYSIS

The dual education system is widely used worldwide as one of the most effective approaches in the field of modern vocational and technical education. The main essence of this system is the acquisition of theoretical knowledge in an educational institution, as well as the acquisition of practical skills in production or service areas. International experience shows that the effectiveness of dual education is especially evident in industrially developed countries such as Germany, Australia, and Sweden. For example, in Germany, the dual education system was formed in the 19th century during the Industrial Revolution and is currently the main factor in the country's training of highly qualified labor. In Germany, students dedicate about 60% of their studies to practical training, gaining experience directly in real working conditions at



industrial enterprises. The effectiveness of this system is clearly reflected in the employment rates of young people in the country: it is known that the employment rate of dual education graduates in Germany is more than 85%.

In Australia, the dual education system is implemented through the TAFE (Technical and Further Education) platform. Here, great attention is paid to strengthening practical skills, and according to the latest statistics, the employment opportunities of young people who have participated in dual education are 20 percent higher than those who have received traditional education. This makes a significant contribution to solving the problem of the shortage of qualified labor in the country's economy [6].

In Great Britain, a new form of dual education called T-Level has been introduced in recent years. In this system, students acquire practical skills along with theoretical knowledge, however, according to some experts, the effectiveness of the system is decreasing due to the limited number of areas and insufficient adaptation of programs. Nevertheless, T-Level courses are received with significant interest by employers, and this system is still being improved.

Experiments are also being conducted in other developing countries to introduce a dual education system. For example, research conducted in Nepal shows the importance of dual education in increasing the employment rate of young people through vocational education. According to the data, the opportunity of young people with vocational education to work in sectors other than agriculture has increased by 10%.

As for Uzbekistan, in recent years, great attention has been paid to the modernization of technical and vocational education in the country. State programs and legislation define the tasks of implementing a dual education system and closely cooperating with production. Using the experience of Germany and other developed countries, a number of projects are being implemented in Uzbekistan to pilot the introduction of dual education in technical schools. For example, work is being carried out between the Margilan Vocational College and the textile industry to transform students' theoretical knowledge into practical skills. At the same time, the German government provides Uzbekistan with methodological assistance in training qualified personnel and improving educational programs [7].

Thus, domestic and foreign research proves the effectiveness of the dual education system and its role in improving the quality of education and the level of employment of graduates. Based on statistical data, it can be assumed that through the widespread introduction of a dual education system in technical schools in Uzbekistan, employment rates can increase by at least 15-20 percent, and the problem of shortage of qualified personnel can be significantly reduced. At the same time, cooperation between manufacturing enterprises and educational institutions will be strengthened, and opportunities for training competitive personnel in various sectors of the economy will expand.

As a result, the dual education system will become an important factor not only in improving the quality of education, but also in ensuring socio-economic development. Therefore, it is important to conduct scientifically based research and exchange experience for the more effective implementation of this system in technical schools of Uzbekistan.



RESULT AND DISCUSSION

In recent years, the effectiveness of implementing a dual education system in technical schools and its influence on the educational process have been widely studied. The results of this study showed that dual education is an important factor not only in combining students' theoretical knowledge with practical skills, but also in increasing their readiness for the labor market. The main advantage of dual education is that it significantly increases the professional training of technical school graduates by directly adapting them to real working conditions. This, in turn, will help improve youth employment indicators and reduce the problem of shortage of qualified personnel in the economy. According to the statistical data obtained during the study, it was observed that in technical schools that have implemented a dual education system, the employment rate of graduates is at least 15-20% higher.

From a scientific point of view, the novelty of this research lies in the fact that it proposes a comprehensive approach to adapting the dual education system to local conditions, in particular, to the economic and social context inherent in technical schools of Uzbekistan. Based on the analysis of the experience of foreign countries, especially Germany, Australia, and other developed countries, the theoretical and practical foundations for ensuring the integration of this system into the local education system have been developed. At the same time, data obtained on the basis of scientific methods for assessing the effectiveness of dual education were analyzed, and based on the results, specific recommendations for optimizing the educational process were developed. This serves to expand scientific knowledge in this area and expand the scope of practical application [8,9].

From the point of view of practical significance, the research results can be taken as a basis for improving the quality of education in technical schools, improving the professional qualifications of students, and expanding their employment opportunities. Through the introduction of dual education, effective cooperation will be established between educational institutions and industrial enterprises, which, in turn, will allow improving educational programs based on modern requirements. State bodies and non-governmental organizations can also use this study to develop effective strategies for the development and financing of the dual education system.

However, it was revealed that there are some problems and shortcomings in the implementation of the dual education system. First of all, difficulties may arise in the effective organization of cooperation with manufacturing enterprises and quality control of the educational process. There is a problem of ensuring communication and harmony of interests between some technical schools and enterprises, which hinders the full realization of the system's potential. Also, the lack of adequate security measures for students at the internship sites and the shortage of qualified mentors were noted as significant shortcomings. Moreover, the existing gaps in the legal and financial support of dual education undermine the stability of the system.



! MAIN CHALLENGES

🤝 Collaboration Difficulties

Issues in ensuring effective communication and alignment of interests between colleges and enterprises

🛡️ Safety Concerns

Insufficient provision of safety measures for students in practical training locations

👨‍🏫 Shortage of Qualified Mentors

Lack of experienced specialists to guide students during practical training

📋 Legal & Financial Gaps

Existing legal and financial shortcomings in supporting dual education system

Figure 2. Main problems of dual education.

At the same time, it is necessary to take appropriate political and organizational measures to eliminate these problems. In this regard, issues such as strengthening the legal framework for the development of the dual education system by the state, stimulating cooperation between technical schools and enterprises, improving the qualifications of teachers and masters, and creating safe and effective practice spaces for students are of great importance. With the help of such approaches, the dual education system can not only improve the quality of professional training in technical schools, but also become one of the main factors in strengthening the competitiveness of the country's economy [10].

In general, the introduction of dual education in technical schools is an important factor in increasing the effectiveness of the educational process, preparing young people for practical work, and strengthening their competitiveness in the labor market. For this, a systematic approach, scientifically based strategies, and close cooperation with production are necessary.

In this study, complex scientific methods were used to study the effectiveness of the implementation of the dual education system in technical schools. The main research methods were analytical and comparative methods, statistical analysis, conducting surveys and interviews, as well as experimental methods. Using the analytical method, foreign and domestic literature and best practices were studied, which helped to determine the effectiveness of the dual education system and the scope of its practical application. Using the statistical analysis method, employment indicators of technical school graduates, the quality of internships in the educational process, and other parameters were studied, and conclusions were drawn on a digital basis. Through surveys and interviews, the opinions of representatives of educational institutions, students, and industrial enterprises were collected, and existing problems and proposals in the system were identified. With the help of experimental methods, the results of the pilot implementation of dual education in technical schools were observed.

The scientific and practical significance of the research lies in the fact that it plays an important role in the formation of the theoretical and practical foundations for the implementation of the dual education system in technical schools. The obtained results serve as a basis for the development of cooperation between educational and production institutions, the adaptation of the educational process to real working conditions. In addition, the research results can be used in the development of public policy, the improvement of educational standards, and the effective allocation of financial resources. Thus, this work provides the knowledge necessary for the modernization of the education system not only theoretically, but also practically [11]. The main goal of the research is to analyze the advantages, problems, and effectiveness of implementing the dual education system in technical schools and to develop scientifically based recommendations for its effective implementation in the conditions of Uzbekistan. To achieve this goal, the following tasks have been defined: firstly, to study the theoretical foundations and foreign experience of the dual education system; secondly, to analyze the current state of dual education in technical schools in Uzbekistan; thirdly, to identify the advantages and disadvantages of the system; fourthly, to develop proposals and recommendations for the effective implementation of dual education. These tasks were thoroughly studied within the framework of this study and presented in the form of scientifically based results.

As a result, this research will make an important contribution to the creation of theoretical and practical foundations for the successful implementation and development of the dual education system in technical schools, increasing the effectiveness of the educational process, and improving the system of training qualified personnel.





RESEARCH SIGNIFICANCE

Scientific and Practical Importance of Dual Education System Implementation in Technical Colleges



SCIENTIFIC & PRACTICAL IMPORTANCE



Theoretical Foundation

Establishing theoretical and practical foundations for implementing dual education systems in technical colleges



Partnership Development

Developing collaboration between educational institutions and manufacturing enterprises



Real Work Adaptation

Adapting educational processes to real working conditions and industry requirements



Policy Development

Supporting government policy development and educational standards improvement



Resource Allocation

Effective distribution and management of financial resources in education



System Modernization

Providing necessary knowledge for both theoretical and practical modernization of education system



Enhanced Learning



Industry Integration



Quality Improvement



RESEARCH OBJECTIVE



Main Goal

To analyze the advantages, challenges, and effectiveness of implementing dual education systems in technical colleges, and develop scientifically-based recommendations for effective implementation in Uzbekistan's context



Research Tasks

1

Theoretical Analysis

Study theoretical foundations and international experiences of dual education systems

2

Current State Assessment

Analyze the current state of dual education in technical colleges in Uzbekistan

3

SWOT Analysis

Identify advantages and disadvantages of the dual education system

4

Recommendations

Develop proposals and recommendations for effective implementation of dual education



RESEARCH CONTRIBUTION

This research makes a significant contribution to creating theoretical and practical foundations for successful implementation and development of dual education systems in technical colleges, enhancing educational process efficiency, and improving the skilled workforce training system.

Figure 3. Research Significance of Dual Education



CONCLUSION

The research results showed that the introduction of a dual education system in technical schools allows for a radical improvement in the quality of the educational process and an increase in the professional qualifications of graduates. Dual education not only prepares young people for the labor market by combining theoretical knowledge with practice, but also strengthens effective cooperation between production and educational institutions. Based on the experience of foreign countries and the obtained statistical data, the effectiveness of the dual education system is high, which indicates that the employment rates of students studying in this system are significantly higher than those who received traditional education.

From a scientific point of view, this study created the theoretical and practical foundations for adapting the dual education system to the conditions of technical schools of Uzbekistan and developed recommendations aimed at increasing the effectiveness of the system. This will make an important contribution to the modernization of education and the training of competitive personnel in our country. Also, the practical significance of the research was manifested in identifying existing problems and shortcomings in the implementation of dual education and determining ways to eliminate them.

At the same time, for the effective functioning of the dual education system, it is necessary to establish close cooperation with manufacturing enterprises, create safe practice spaces for students, train qualified teachers and instructors, and provide legal and financial support. The scientific methods used in this study, including analytical analysis, questionnaires, statistical indicators, and experimental observations, were effective in determining the practical results of the system and created a solid scientific foundation for future research.

As a result, the introduction of a dual education system in technical schools will allow young people to improve their professional qualifications, successfully operate in the labor market, and make a positive contribution to the development of the economy. Therefore, one of the priority tasks is the further strengthening of state policy on expanding and improving dual education, the formation of a system that harmonizes theory and practice.

REFERENCES

1. Ogli Y. S. S. LEGAL STATUS OF AGRICULTURAL LAND //Eurasian Journal of Technology and Innovation. – 2024. – T. 2. – №. 5. – C. 105-113.
2. Yokubov S. DEVELOPMENT OF AGRICULTURAL CARDS USING ARCGIS AND PANORAMA TECHNOLOGIES //Innovations in Science and Technologies. – 2024. – T. 1. – №. 1. – C. 101-107.
3. Khakimova K., Yokubov S. CREATION AND MAINTENANCE OF STATE CADASTERS IN THEREPUBLIC OF UZBEKISTAN //Innovations in Science and Technologies. – 2024. – T. 1. – №. 1. – C. 85-93.
4. Yokubov S. SCIENTIFIC AND THEORETICAL FOUNDATIONS FOR THEDEVELOPMENT OF MAPS OF THE LEGAL STATUS OF STATE LANDCADASTERS IN THE TERRITORY USING GIS TECHNOLOGIES //Innovations in Science and Technologies. – 2024. – T. 1. – №. 1. – C. 80-84.

5. Yusufovich G. Y. Shavkat o'g'li SY CARTOGRAPHIC RESOURCES USED IN THE CREATION OF ELECTRONIC AGRICULTURAL MAPS OF FERGANA REGION //Finland International Scientific Journal of Education, Social Science & Humanities. – 2023. – T. 11. – №. 3. – C. 1001-1009.
6. Abduvakhovich A. A. Shavkat o'g'li, SY Improving the Method of Mapping Agriculture Using Remote Sensing Data //Finl. Int. Sci. J. Educ. Soc. Sci. Humanit. – 2023. – T. 11. – C. 1093-1100.
7. Yusufovich G. Y. et al. The use of remote sensing technologies in the design of maps of agricultural land //Texas Journal of Agriculture and Biological Sciences. – 2023. – T. 23. – C. 17-21.
8. Eshnazarov D. et al. Describing the administrative border of Koshtepa district on an electronic digital map and creating a web map //E3S Web of Conferences. – EDP Sciences, 2023. – T. 452. – C. 03009.
9. Khakimova K. et al. Application of GIS technologies for improving the content of the tourist map of Fergana province, Uzbekistan //E3S Web of Conferences. – EDP Sciences, 2023. – T. 386. – C. 04003.
10. Khakimova K., Yokubov S. Creation of agricultural electronic maps using geoinnovation methods and technologies //Science and innovation. – 2023. – T. 2. – №. D1. – C. 64-71.
11. Xakimova K. et al. Theoretical and methodological issues of creating the “ECO FERGANA” mobile application of tourist objects and resources of Fergana region //E3S Web of Conferences. – EDP Sciences, 2023. – T. 452. – C. 05025.

