World Bulletin of Education and Learning (WBEL)
ISSN (E): 3072-175X
Volume 2, Issue 2, February 2026

https://worldbulletin.org/index.php/1

DUAL EDUCATION IN UZBEKISTAN

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Abstract
This article examines the development of the dual education system in the Republic of Uzbekistan, its structure, goals, and objectives, as well as key areas for improvement. It highlights the importance of the dual model for training qualified personnel who meet the demands of the modern economy. The challenges encountered in implementing the dual system are analyzed and solutions are proposed.

Keywords: Dual education, vocational training, practice, personnel training, partnership, enterprise.

Introduction

Uzbekistan's modern education system is undergoing an active reform process aimed at improving the quality of training specialists who meet the demands of an innovative economy and labor market. One of the priority areas is the introduction of dual education – a form of education that combines theoretical training at an educational institution with practical work at a company.

The dual system, successfully implemented in Germany, Austria, and several other countries, has proven its effectiveness in ensuring high-quality professional training. For Uzbekistan, adapting this model has become an

World Bulletin Publishing
Online Publishing Hub

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important step toward strengthening the links between education and industry, increasing the competitiveness of graduates, and reducing youth unemployment. The concept of dual education comes from the Latin word “dualis”, meaning “double”. This system combines two components: theoretical training at an educational institution and practical on-the-job training. The basic idea is that students not only acquire knowledge but also develop professional skills in real-world work settings.

The scientific novelty of the study lies in the comprehensive analysis of the development of dual education in the Republic of Uzbekistan, taking into account digitalization processes and the integration of international experience into the national system of vocational training.

Methodology

Unlike the traditional system, where practical training is sporadic, dual education involves a continuous alternation of training and practical work. This allows students to apply their acquired knowledge in practice, develop professional competencies, and understand the demands of a real-world production environment.

A key component of this system is the availability of trained personnel within the enterprise itself, who act as mentors. A distinctive feature of the dual approach to training is that in this case, the enterprise, even more than the educational institution, is interested in high-quality training. Therefore, production workers fully share responsibility for organizing the educational process, overseeing the educational institution's operations, and ensuring continuity in the theoretical and practical training of students, whom they view as their future employees. Dual education differs from traditional training in its focus on concrete, practical assignments in real-world settings. Educational and methodological materials developed within the dual approach are fundamentally focused on students' practical activities.

In recent years, the government of Uzbekistan has placed particular emphasis on developing vocational education. Presidential and Cabinet of Ministers

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resolutions aim to modernize curricula, strengthen cooperation with businesses, and introduce dual education.

A key step was the approval of programs for the development of the dual education system, involving the Ministry of Higher Education, Science, and Innovation, the Ministry of Employment and Poverty Reduction, and the Chamber of Commerce and Industry. Based on international experience, priority areas were identified: mechanical engineering, textiles, services, information technology, and agriculture.

Today, pilot dual education projects are operating in various vocational colleges and technical schools in the republic, including with the support of German and South Korean partners. This has allowed for the accumulation of practical experience and adaptation of the model to national conditions.

The main goals of introducing dual education in Uzbekistan are:

- improving the quality of training personnel that meets labor market requirements;
- strengthening ties between educational institutions and employers;
- developing practical competencies and professional responsibility in students;
- ensuring employment for graduates;
- creating a sustainable partnership model between the government, business, and the education system.

Dual education is aimed at developing a new generation of specialists – competent, flexible, capable of self-development, and adapting to changing production conditions.

According to established models, dual education in Uzbekistan is organized based on contractual relationships between the educational institution, the enterprise, and the student. The educational institution provides theoretical training, while the enterprise provides practical training and mentoring.

Curricula are developed with employer requirements in mind. Up to 60% of the curriculum is devoted to practical training, allowing students to gain real-world work experience by the time they graduate. This system fosters professional maturity and responsibility for work results.

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The introduction of digital platforms, electronic internship journals, and online learning modules improves the transparency and manageability of the dual system. Digital technologies facilitate closer interaction between educational institutions and enterprises.

Furthermore, digitalization creates the conditions for individualizing students' educational trajectories, which is especially important in a rapidly changing labor market.

Thus, the combination of a dual approach and digital technologies is considered a strategic direction for the modernization of vocational education in the Republic of Uzbekistan.

Globally, the dual education system is considered an effective tool for integrating education and industry.

The most developed dual education models are represented in Germany, Switzerland, and Austria. They are characterized by clear regulatory frameworks, active employer participation, and the high social significance of vocational education.

For Uzbekistan, studying this experience has practical value, as it allows it to adapt successful training mechanisms to national economic and cultural characteristics.

The development of dual education requires a systemic approach, including updating educational standards, improving teacher qualifications, and creating sustainable mechanisms to motivate businesses to participate in training.

The economic impact of dual education. The economic impact of dual education manifests itself at the micro, meso, and macroeconomic levels. At the enterprise level, the dual model allows for the development of a talent pool tailored to specific technological processes and production standards, significantly reducing the costs of onboarding and additional training. Employers receive specialists who are already integrated into the corporate culture and production environment, which increases productivity and reduces turnover.

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At the industry and regional levels, dual education facilitates a more precise alignment of training structures with labor market needs. This reduces the imbalance between labor supply and demand, lowers structural unemployment, and increases youth employment. Furthermore, engaging businesses in the educational process stimulates investment in human capital and promotes technological innovation in production.

At the macroeconomic level, the dual education system acts as a factor in enhancing the competitiveness of the national economy. The development of qualified personnel focused on practical work and innovation contributes to increased labor productivity, increased added value, and the strengthening of the country's export potential. In the long term, the development of dual education reduces the social costs of unemployment and retraining, creating a sustainable foundation for economic growth.

Results and Discussions

A special role is played by on-the-job mentors, who support students, monitor their progress, and participate in competency assessments. For the system to function effectively, continuous feedback between employers and instructors is essential.

The main advantages of the dual system include the following:

1. Practical focus. Students master their profession directly in the workplace.
2. Bridging the gap between theory and practice. Graduates possess real-world skills and adapt more quickly to the workplace.
3. Collaboration with businesses. Employers participate in the development of educational programs, which improves their quality.
4. Employment of graduates. Most students receive job offers while still studying.
5. Social stability. The dual system helps reduce youth unemployment.

Thus, dual education is a tool for aligning the educational process with economic needs.

Despite the positive results, the implementation of the dual system in Uzbekistan faces certain challenges:

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- insufficient preparedness of enterprises to accept students for internships;
- limited number of qualified mentors;
- weak material and technical infrastructure of some educational institutions;
- inadequate regulatory framework;
- differences in motivation between students and employers.

The successful development of the system requires strengthening institutional mechanisms, developing uniform standards, and enhancing the role of enterprises as full participants in the educational process.

In the coming years, the development of the dual education model in Uzbekistan will focus on expanding its reach across industries, improving teaching methods, and integrating digital technologies into personnel training. Particular attention is being paid to the creation of dual education centers and the training of teacher-mentors skilled in modern methods of integrating theory and practice.

One of the key areas will be leveraging international expertise, particularly collaboration with the German Society for International Cooperation (GIZ), as well as with educational institutions in the Republic of Korea and Turkey. This will strengthen the vocational training system and elevate it to a new level of quality.

Conclusions

The analysis shows that dual education in the Republic of Uzbekistan represents a promising and strategically important approach to modernizing the professional training system. Combining theoretical training in educational institutions with systematic practical work at enterprises helps ensure graduates are better equipped to meet the demands of the modern labor market and innovative economy.

The study's results confirm that the economic impact of dual education manifests itself at various levels – from individual enterprises to the national economy as a whole. For employers, the dual model ensures the development of a talent pool, reduces training and onboarding costs, and increases productivity. Therefore, dual education can be considered an effective mechanism for the sustainable development of professional education and the economy of the

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Republic of Uzbekistan as a whole. Its further development and expansion, provided comprehensive government support and the active participation of employers, can transform the dual model into one of the leading forms of training qualified specialists who meet the current and future needs of society and the labor market.

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