

Transformation of higher education in Uzbekistan: new formats, implementation opportunities and prospects

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Abstract. Issues of accessibility and quality of education are included in strategic development programs worldwide, as the state has a positive impact on material well-being and socioeconomic development by creating an educational environment conducive to the self-fulfillment of the population. Stability and growth of human capital contribute to increased economic potential and the creation of competitive advantages in the international arena. Therefore, this article addresses the need to develop the education system in the Republic of Uzbekistan using modern methods of training personnel with up-to-date knowledge applicable to all sectors. The article presents information on new developments in the field of education in the Republic of Uzbekistan, as well as the methods and means for achieving them. In today's technologically advanced environment, the main factors in the sustainable development of the economy of Uzbekistan are the innovative component of economic growth, namely measures to intensify modernization processes and introduce modern technologies. To this end, the Republic of Uzbekistan has a solid innovation base, which includes a number of scientific and specialized institutions, scientific human resources, and a fairly high level of education of the population.

Key words: public education, globalization, national wealth, socio-economic development, innovation process, public wealth, digitalization, modern technologies, quality of education, educational environment, human capital, dual education, institution.

Трансформация высшего образования в Узбекистане: новые форматы, возможности реализации и перспективы

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АННОТАЦИЯ. Вопросы доступности и качества образования включены в стратегические программы развития по всему миру, поскольку государство благоприятно влияет на материальное благосостояние и социально-экономическое развитие, создавая образовательную среду для самореализации населения. Стабильность и рост человеческого капитала способствуют увеличению экономического потенциала и созданию конкурентных преимуществ на международной арене. В связи с этим в данной статье ставится задача развития системы образования в Республике Узбекистан с использованием современных методов подготовки кадров, обладающих современными знаниями, применимыми для всех отраслей. В статье представлена информация о новых разработках в сфере образования в Республике Узбекистан, а также методах и способах их достижения. В современных технологически развитых условиях основными факторами устойчивого развития экономики Узбекистана является инновационная составляющая экономического роста, а именно меры по активизации процессов модернизации и внедрению современных технологий. Для этого в Республике Узбекистан имеется прочная инновационная база, в состав которой входит ряд научных и специализированных учреждений, научный кадровый потенциал и достаточно высокий уровень образования населения.

Ключевые слова: государственное образование, глобализация, национальное богатство, социально-экономическое развитие, инновационный процесс, общественное богатство, цифровизация, современные технологии, качества образования, образовательная среда, человеческий капитал, дуальное образование, учреждение.

Introduction

Among the many areas being developed in our country, the work carried out by the state and representatives of the industry to improve the skills of personnel working in various areas of the tourism industry, including increasing the experience of highly qualified personnel working in all areas of the tourism industry, is bearing fruit year after year. These works have contributed to increasing interest in the tourism industry among young people, increasing the demand for this area in educational institutions, as well as increasing the number of people interested in tourism, and increasing the number and number of educated, talented, and enterprising highly qualified personnel who serve actively and honestly. As a result of the large-scale reforms being implemented by our state to develop the tourism industry, this area is increasingly developing. Mature, modern personnel are of decisive importance in further developing the industry and achieving the lofty goals set by the head of our state. The primary task of recent years has been the revision of the directions, specialties and programs in which students are trained. The needs of personnel customers – objects and subjects of the economy, scientific, educational, medical, financial and other institutions – are put at the center of attention. Targeted admission to bachelor's and master's programs of universities in the relevant industries and regions is increasing. Employers now formulate requirements to knowledge, skills and competencies of future specialists, and institutes and universities have to compete in the issue of employment of graduates. Conditions for effective interaction with employers are being created in universities, and market mechanisms are being introduced in the sphere. This is exacerbated by the mismatch between the skills produced by the education system and the skills that are needed and valued by employers and are essential for new businesses in the economy.

The development of the education system in Uzbekistan is based on the basic principles of international educational activity, one of which is to create conditions and ensure the realization of accessible quality education. Everyone in the country is guaranteed equal rights to education,

irrespective of sex, race, ethnicity, language, religion, social origin, beliefs, or personal or social status. Having achieved significant success in eliminating illiteracy and providing accessible education for all citizens, Uzbekistan retains the dominance of State funding in the field of education, which is an undoubted plus. Education in the country is realized in the following types: preschool education and upbringing; General secondary and specialized secondary education; vocational education; higher education; postgraduate education; retraining and advanced training of personnel; extracurricular education.

Higher education in the republic is an independent type of continuous education system, which is carried out in higher educational organizations on the basis of general secondary and specialized secondary and vocational education in accordance with its legislation. There are the following types of higher educational organizations in the country: university, academy, institute (equivalent higher educational institutions). Higher education is also divided into two levels: bachelor's and master's degrees. Developing and modernization in these degrees is aim of this article.

Methods

In this research the researcher used some methods which are systematic approaches used for collecting and analyzing data, broadly categorized into quantitative, qualitative, and mixed methods. Quantitative methods were used for focusing on numerical data to measure variables and test hypotheses, surveys or experiments, while qualitative methods delve into comprehensive narrative and visual data to gain insights and understanding, employing techniques like interviews or observations. Mixed methods were also used both quantitative and qualitative approaches to provide a more holistic understanding of a phenomenon.

Results

In the Decree of the President of the Republic of Uzbekistan dated October 8, 2019 PD-5847 «On approval of the Concept of development of the higher education system of the Republic of Uzbekistan until 2030» important tasks in the direction of systemic reform of higher education in the Republic of Uzbekistan are defined: «introduction of advanced standards of higher education, in particular, a gradual transition from education, whose curricula are aimed at obtaining theoretical knowledge, to the system of education aimed at the formation of practical skills, based on international experience, raising the content of higher education to a qualitatively new level, establishing a system of training highly qualified personnel who are able to find their place in the labor market, to make a worthy contribution to the stable development of the social sphere and sectors of the economy»¹.

Higher education institutions play an important role in the creation, dissemination, transfer of knowledge and penetration of knowledge into production sectors. To enhance this penetration, dual/cooperative higher education will be an additional conceptual solution for the higher education system in the task of providing the labor market with highly qualified personnel who can perform their functions effectively and responsibly and adapt to changing economic conditions. In Germany and other European countries, the cooperative education program is directly initiated by the employer. The student receives theoretical knowledge at the university and practical experience in the company. In Europe, this system has been showing positive results for a hundred years. Since the XII century professional organizations have already regulated the training (apprenticeship) of their descendants.

By the 19th century, this form of training had spread to other professions and industries. In the 20th century, the compulsory school accompanying apprenticeship was dominated by the professional development school, which was divided by occupations and was called vocational school since 1920. Compulsory vocational school was introduced in Germany in 1938².

In the world practice we can distinguish three main models of partnership in higher education. The first model - the state plays an insignificant role (UK, USA). This model of

¹ Decree of the President of the Republic of Uzbekistan dated October 8, 2019 DP-5847 "On approval of the Concept for the development of the higher education system of the Republic of Uzbekistan until 2030." <https://lex.uz>

² <https://www.delst.de/de/lexikon/duales-system-der-berufsausbildung/>

interaction between the educational community and business reflects the tendencies of decentralization of state management. The state does not formally regulate professional education, most decisions are made at the local level with the broad participation of employers. The second model - the state plans and implements professional education and manages it (France, Sweden). This model of interaction between the system of educational services and the labor market is characterized primarily by a high level of state regulation of higher education. The third model – the state determines the general framework of activities of private companies and organizations in the implementation of vocational education (Germany, the Netherlands, Denmark, Scotland). In particular, the German system of vocational education is characterized by concentration and integration of educational resources. Cooperation between employers and educational institutions plays a huge role in the formation of a young specialist³.

In France, the dual education system opens the way for students to all professional certificates registered in the national qualifications catalog.

In Germany, both public and private universities offer dual education, and their number is increasing every year. This system offers more than a thousand programs. Companies that have invested financial and time resources in the education of dual students are interested in their future employment after graduation.

On an international scale, German industrial enterprises are most actively working on innovative projects together with universities. Thus, the share of companies cooperating with universities in Germany is more than 50%, in Great Britain - 30%, in France - only 25%. According to the Mannheimer Innovationspanel research project, in 2007 there were more than 40,000 companies in Germany that maintain scientific contacts with universities. And this figure is continuously growing. German companies and corporate foundations invest more than 1.7 billion euros in research at universities. Almost half of the funds are spent on contract research, and more than 50% are spent on joint research projects.

IBA is the largest state-recognized cooperative education university in Germany, it is part of the F+U group, which has been involved in higher education for more than 40 years. The university was founded in 2006 and offers bachelor's degree programs on a dual study scheme (work + study) in twelve study centers throughout Germany. To date, the university has more than 3500 students.

Dual programs are becoming increasingly popular in Germany among both students and employers. The students work in a company while studying for their bachelor's degree. This means that they gain valuable work experience during their studies and thus have excellent job opportunities in the competitive German labor market⁴.

- IBA training programs are implemented in partnership with approved organizations that hire students as interns for the duration of their training. IBA practices a "split week" training model based on a 40-hour work week: students spend about 20 hours of study per week and 16-20 hours of on-the-job training at a partner company. By the time they graduate, IBA students have an ideal combination of academic and practical competence. IBA offers more than 30 undergraduate degree programs to choose from;

- The opportunity to study at one of 12 study centers located in major German cities;
- IBA has over 2000 partner organizations where students can find employment;

Tashkent State Agrarian University participates in the implementation of the international project " Professional Education in Central Asia - Promoting Systemic Approaches in the Food Production Sector" in cooperation with the German Agency for International Development Cooperation and International Educational Work (Gesellschaft für Internationale Zusammenarbeit - GIZ). This project supports partner countries (Republic of Uzbekistan, Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan) in reforming vocational education on the example of food

³ Klaus-Dieter Heinze. German experience of scientific cooperation between industrial enterprises and higher education institutions. Journal VSU Bulletin. 2019 No. 3. <http://www.vestnik.vsu.ru/pdf/educ/2019/03/2019-03-18.pdf>. p.80-84.

⁴ <https://edu-abroad.su/stati/vysshee-obrazovanie-v-germanii/dualnoe-obrazovanie/>

production sector. The main objective of the project is to improve the normative and institutional framework of dual/cooperative vocational higher education in Central Asia in the field of food production. Special attention is paid to employability orientation and introduction of international quality standards at the level of higher vocational education. The development of dual/cooperative learning, i.e. combining learning in a real working environment with learning in a higher education institution is at the core of the project activities. In addition, the project actively seeks regional harmonization and compatibility of national vocational education systems. The project aims for its subsequent implementation at the university on the basis of the Department of "Agroeconomics and Tourism" cooperative bachelor's degree program "Logistics (for food production)". This is a 4-year (8 semesters) program with a total credit volume of 240 ECTS, characterized by a constant alternation of theoretical phases at the university and practical phases in the company and modern, practice-oriented teaching.

Dual/cooperative higher education is a format of education that combines studies in a higher education institution with experience gained during internships in companies and organizations, i.e. the theoretical part of education is carried out on the basis of an educational organization, the practical part - in the workplace of the learner. The combination of higher education and workplace learning is aimed at providing both academic skills and professional knowledge. In this regard, academic theoretical knowledge gained in the classroom is complemented by workplace experience. Thus, the effectiveness of theory is tested in real life situations and vice versa. It is based on a structured partnership between a higher education institution and employers (for-profit or non-profit organizations, enterprises or public and private services).

The order of organization of dual education is determined by the Cabinet of Ministers of the Republic of Uzbekistan (Articles 15 and 17 of the Law of the Republic of Uzbekistan "On Education" No. LRU-637 of September 23, 2020)⁵. It should be noted that in Uzbekistan adopted the Decree of the Cabinet of Ministers of the Republic of Uzbekistan on dual vocational education ("On measures to organize dual education in the system of vocational education" Decree of the Cabinet of Ministers of the Republic of Uzbekistan № 163 of March 29, 2021).

In dual/cooperative⁶ higher education, internship experiences are an integral component of the academic program, curriculum and plan. The HEI and work-based learning phases are linked in time and content. Students receive academic credit for practicum experiences as well as support from the HEI at all stages of their studies, including during the practicum experience. The basic principle of dual/cooperative higher education is a continuous cycle between the acquisition of theoretical knowledge at HEI and the application of this knowledge in practice, in the workplace. Such a cycle allows creating synergy between theory and practice.

Thus, dual/cooperative higher education provides academic qualifications at undergraduate level, enabling students to gain extensive practical experience. It enables students to take on challenging tasks early in their professional development and helps to build a successful career. It does not replace existing academic programs in educational institutions, it is an additional and necessary format of study to enhance the higher education offered at institutional, national and international levels. If necessary, they can also be offered as part of master's and doctoral programs, under cooperative partnership and contractual terms.

Dual/cooperative higher education programs provide integrated learning (by days, weeks, months) for students within the higher education institution and on the basis of the enterprise/organization, in compliance with the requirements of the educational standards of dual/cooperative higher education (if any) and professional standards. These programs are developed on the basis of systematic/regular coordination of the educational, organizational and contractual conditions of the stakeholders, with a clear distribution of the functions of the enterprise/organization within the curriculum, including the placement of students in workplaces during the internship. In organizational and legal terms, dual/cooperative higher education is a

⁵ Law of the Republic of Uzbekistan "On Education" No. ZRU-637 dated September 23, 2020. <https://lex.uz>

⁶ "On measures to organize dual education in the vocational education system" Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 163 dated March 29, 2021. <https://lex.uz>

symbiosis of two independent (legal) units of the socio-economic system: an educational institution and an enterprise/organization. Such integration is a necessary component of personnel training in the conditions of globalization and digitalization of the economy (in accordance with the provisions of the strategy "Digital Uzbekistan - 2030", No. PD-6079 of October 5, 2020) ⁷ and an important contribution to ensuring the professional competence of the labor force. Availability of qualifications in accordance with the requirements of the labor market and international standards, guaranteed level of providing graduates with jobs are important factors of employment and reducing unemployment in the country, and involvement of more qualified personnel in production activities - to improve the economic performance of the enterprise/organization.

Gradual introduction of dual/cooperative higher education in Uzbekistan, on the one hand, will contribute to raising to a qualitatively new level the process of training independently thinking highly qualified personnel with modern knowledge and high personal qualities, modernization of higher education, development of social sphere and sectors of economy, and on the other hand - to strengthen the role and participation of enterprises and organizations in the educational process and improve professional and communication skills of graduates (Table 1).

Table 1

SWOT analysis of dual/cooperative higher education in Uzbekistan [21]

Strengths (strengths)	Weaknesses (weaknesses)
• provides academic qualifications at the undergraduate level, gives students the opportunity to gain extensive practical experience, to apply scientific knowledge in practice; • high level of academic and administrative support; • pedagogical and methodological support for the student during the stages of study in higher education and in the workplace • professionally oriented training, combining study in the classroom and practice at the workplace; • tuition fees are usually paid by the partner company; • flexible response of the curriculum and academic qualifications to the needs of the labor market for highly qualified specialists with appropriate professional skills and abilities; • strengthening the learning infrastructure of the university of dual/cooperative higher education by utilizing the infrastructure of the partner company; • close connection of the educational process at the university with practice at enterprises/organizations; • emergence of new funding models.	• insecure employment of graduates; • uncoordinated policies of enterprises/organizations and higher educational institutions; • structural changes in a higher educational institution (organization of a department of dual/cooperative higher education, appointment of responsible coordinators/mentors, etc.); • organization of the educational process and redistribution of the teaching load; • the complex profile of partner companies in dual/cooperative higher education cannot always be clearly reflected in the curriculum of dual/cooperative higher education, which can cause difficulties in formulating goals and obtaining expected learning outcomes at a higher educational institution; • creating overly specialized programs to meet specific employer requirements; • developing educational programs that are too general for the needs involved; • requires a relatively high academic load on the part of the student to study and master the academic load and for practice in enterprises and/or other organizations; • curricula are too dense; • organizing payment (partial or full) of contracts and scholarships by interested parties for students studying in dual/cooperative higher

⁷ Decree of the President of the Republic of Uzbekistan dated October 5, 2020 "Digital Uzbekistan - 2030", No. UP-6079. <https://lex.uz> Source: developed by the authors.

	education programs.
Opportunities (opportunities)	Threats (threats)
• promotes the modernization of higher education; • the process of training independently thinking, highly qualified personnel with modern knowledge and high personal qualities will rise to a qualitatively new level; • expands the prospects and scope of employment opportunities for graduates; • provides a broad opportunity for faculty development through exposure to new trends, technologies and developments, as well as potential collaboration in training and research; • allows higher educational institutions to increase their competitiveness and attractiveness in the educational services market; • provides universities with the opportunity to enhance the practical relevance of the higher education they offer; • provides the labor market with qualified personnel of the required/required qualifications; • reduces unemployment in the country; • improves the economic performance of an enterprise or organization; • promotes strengthening of connections in the “knowledge triangle” - an integrated approach to policy in the field of science, education and innovation, with an emphasis on the role of universities as a subject of knowledge production; • expands opportunities for applied research and technology transfer between universities and industry, thereby promoting innovation in the economy and in the academic environment; • promotes the development of the social sphere and economic sectors; • training competitive specialists in their field with communicative and professional competencies that meet the needs of society and the national economy of Uzbekistan.	• absence or insufficiency of mechanisms for providing tax privileges/preferences for enterprises and organizations involved in dual/cooperative higher education; • financial instability of enterprises/organizations; • the small scale and narrow specialization of activities may become the reasons for the relatively low probability of concluding an agreement on their part for the cooperative (joint) training of 1 or 2 specialists with higher education, once every 3 years or 5 years; • For some enterprises/organizations, long-term investment of financial resources is impractical due to a possible oversaturation of specialists in a certain profile/specialty or potential workplace in the enterprise, the possibility of obtaining a ready-made workforce of specialists from outside (i.e., there is an excess of specialists with higher education in the labor market, who are looking for a suitable and well-paid job in their specialty); • for an enterprise/organization, the financial costs that will be spent on training (payment for tuition at a higher educational institution) of a future specialist employee may seem unjustified; • there is a possibility that enterprises will refuse to cooperate in dual/cooperative higher education and long-term investment; • It will be a challenge to attract a sufficient number of enterprises willing and able to invest in dual/co-operative higher education and the individual student in terms of financial support, provision of human resources (mentoring) and related jobs during co-operative education.

The implementation of dual/cooperative higher education requires careful assessment from the perspective of all stakeholders in dual/cooperative higher education and their minimization in order to ensure a viable approach, including in developing the legislative framework provisions, strategic and managerial issues of dual/cooperative higher education within the framework of the concept and formulating further actions for its sustainable implementation (pilot project, roadmap and recommendations).

The objectives of the dual/cooperative higher education organization are:

1. Development of socio-economic mechanisms to support dual/cooperative higher education and models of cooperation between enterprises/organizations and higher education institutions;
2. ensuring the interrelation of educational processes of higher education institutions with the production conditions at the enterprise/organization;
3. organizing the practical part of training at enterprises/organizations and the theoretical part at higher education institutions, involving students in work activities;
4. Formation of competencies through the implementation of educational programs in combination with labor activity;
5. Systematic improvement of educational programs taking into account the requirements of employers and their technological innovations;
6. Further expansion of participation of enterprises/organizations in certification of graduates.

Discussion and conclusion

To conclude for accelerating Uzbekistan's ongoing economic transformation, Uzbekistan needs not only to spend more, but also to invest wisely in education to ensure the transition to a knowledge economy and improve the country's standing in the international arena. In order to accelerate economic growth as Uzbekistan transitions from a commodity-based economy to a modern one, and to fully utilize the demographic dividend, there is a need to focus on improving the quality of skills learned through the education system in order to increase the country's human capital – from solid basic skills to the sophisticated skills acquired through higher education that are necessary for sustainable economic growth and innovation in a rapidly changing market and knowledge-based society. Enterprises in Uzbekistan cannot access the skills they need, and the lack of skilled labor is considered one of the most serious constraints for enterprises. This is due to significant gaps both in the quality of fundamental education and in the labor force's access to appropriate tertiary education and training opportunities. This is exacerbated by the mismatch between the skills produced by the education system and the skills that are needed and valued by employers and are essential for new businesses in the economy.

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