

## **Increasing the Efficiency of Higher Education Personnel Training Management in Uzbekistan**

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**Abstract.** The article outlines the problems of improving the management efficiency of highly qualified personnel and ways to solve them: the relevance of the study is substantiated, the scientific literature is reviewed, the purpose, object and subject of the research are identified, the topic is shown to be consistent with the priority areas of science and technology development in the republic, the system of evidence, scientific argumentation, scientific novelty and practical results of the research are presented. The final part of the article provides the necessary conclusions and recommendations on improving the effectiveness of management of highly qualified competitive personnel in higher education institutions of the Republic of Uzbekistan in line with world standards.

**Keywords:** bachelor, higher education, highly qualified personnel, knowledge, integration, quality of higher education, competitiveness, master, employment, management, management efficiency.

### **Introduction**

**Formulation of the problem.** The ever-increasing pace of globalization and the accelerated exchange of information on a global scale require the training of highly qualified and competitive personnel in an extremely tough competition between countries, companies and corporations. As stated in the UN Sustainable Development Goals until 2030, higher education in the world is becoming a leading factor in sustainable economic growth. Meanwhile, in recent years, the training of highly qualified personnel in the world has maintained high rates. Thus, by 2030, the projected number of students in higher educational institutions will reach 414 million people, which is 4.2 times more than in 2000 [39]. Therefore, if we consider that the foundation of knowledge acquired by a person throughout his life is laid within the walls of a higher educational institution, then the task of a comprehensive solution to improving the quality of higher education is relevant and necessary.

In world practice, in order to effectively manage the contribution of higher educational institutions to the development of the country and society of the leading participants in the educational services market, targeted research works have been organized to provide scientific solutions to a number of problems. Particular attention is paid to such tasks as increasing the

rating and competitiveness of higher educational institutions, training and vocational guidance of highly qualified personnel who meet modern requirements and needs of the higher education system, improving the quality of education, improving the optimal management and regulation of processes, attracting investments, innovations and technologies in the educational process.

**Scientific exposition.** In Uzbekistan, the issue of intensive development of management of the higher education system is being considered at a high level. In particular, the Action Strategy for five priority areas of development of the Republic of Uzbekistan in 2017-2021 outlines the following tasks: “continuation of the course for further improving the system of continuing education, increasing the availability of quality educational services, training highly qualified personnel in accordance with the modern needs of the labor market; improving the quality and efficiency of higher educational institutions through the implementation of international training standards and assessment of the quality of teaching; employment and attraction of graduates of secondary specialized, professional and higher educational institutions to the sphere of private entrepreneurship ”[23]. The effective implementation of these tasks requires a deep analysis of trends in improving higher education, the development of scientific and practical recommendations to improve the efficiency of management of training highly qualified personnel in higher educational institutions.

This scientific research, to a certain extent, serves to implement the tasks set in the Laws of the Republic of Uzbekistan "On Education" and "On State Youth Policy", Decrees of the President of the Republic of Uzbekistan No. PD-4947 dated February 7, 2017 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan" , No. PD-5544 of September 21, 2018 "On approval of the strategy of innovative development of the Republic of Uzbekistan for 2019-2021", Resolutions No. PR-2909 of April 21, 2017 "On measures for the further development of the higher education system", No. PR-3151 of July 27, 2017 "On measures to further expand the participation of industries and sectors of the economy in improving the quality of training specialists with higher education", No. PR-3775 of June 5, 2018 "On additional measures to improve the quality of education in higher educational institutions and ensure their active participation in the large-scale reforms being carried out in the country ”and other regulatory documents.

This study was carried out in accordance with the priority direction of the development of science and technology of the Republic of Uzbekistan "Spiritual, moral and cultural development of a democratic and legal society, the formation of an innovative economy."

**Review of scientific literature.** Scientific research to improve the efficiency of management of training highly qualified personnel in higher educational institutions is carried out in the world's leading scientific centers and higher educational institutions, including: Harvard University, New York University, Stanford University, Graduate School of Business, University of Chicago (USA), Oxford Brookes University, University of Cambridge (UK), University of Munster (Germany), Wageningen University and Research Center (Netherlands), the Japanese International Cooperation Agency (Japan), International University of business and economics (China), Singapore Management University (Singapore), in such international organizations as UNDP, UNESCO, Moscow State University, Russian Economic University (Russia), as well as the Institute for Forecasting and Macroeconomic Research under the Ministry of Economy of the

Republic of Uzbekistan, Westminster International University in Tashkent, Tashkent State Economic University and Tashkent Financial Institute (Uzbekistan).

As a result of research on the effectiveness of management of highly qualified personnel training conducted in the world [7,25,27,28,33,38], a number of scientific and practical results have been obtained: in particular, a strategy for the integrated development of the higher education system has been developed (World Bank and UNDP, Harvard University, New York University, Stanford University, USA), the factors influencing the intellectual capital and innovative potential of personnel are identified, as well as the area of their influence (Wageningen University and Research Center, Netherlands) is assessed using the example of the agro-industrial enterprises of the European Union. On the basis of ensuring the integration of educational, research and innovative processes in higher educational institutions, models for managing the training of highly qualified personnel (World Bank and UNDP) and economic growth of the region have been created, their relationship with the quality of higher education (University of Sheffield, England) has been substantiated, as well as improved methodology for the development of the higher education system (Institute for Forecasting and Macroeconomic Research under the Ministry of Economy of the Republic of Uzbekistan).

The theoretical foundations, models and modern trends in the management of highly qualified personnel training and their employment, the integration of higher education, science and production are reflected in research papers [3,8,22,29-37] and other foreign scientists. The terms of study and the issuance of diplomas, the competitiveness and efficiency of HEU, quality management of higher education, the impact of the potential of HEU graduates on economic development and other issues have been studied in scientific articles, monographs and dissertations of such scientists from the CIS as [2,4-6,9,11,15,19,21] and others.

Based on the study and analysis of the scientific works of local economists - [1,10,12-14,16-18,20,24,26] and others, the author concludes that so far there have been many studies on theoretical and practical aspects of the problem of managing the training of highly qualified HEU personnel. This task remains relevant today because in this area there are a number of scientific, methodological and practical problems that require a comprehensive solution.

## **Main part**

World experience shows that in the system of higher education, scientific research is being carried out on the management of training highly qualified personnel, in particular, in the following priority areas: transformation of higher educational institutions into scientific and cultural centers of the country, internationalization and integration of higher education, automation and democratization of educational processes, assessing the quality of education and the ability of students based on modern methods, increasing the potential of higher education, developing and commercializing new knowledge and introducing modern innovative technologies in education management, implementing management of higher education based on an online system, increasing the volume of human capital and improving the training management system frames.

This study was carried out in accordance with the research plan of the Tashkent State Economic

University within the framework of the applied project A-2-89 "Improving the economic and organizational mechanisms of effective management of research activities in the higher education system."

The purpose of the study is to develop scientific-theoretical, scientific-methodological and scientific-practical proposals and recommendations for improving the efficiency of management of training highly qualified personnel.

The scientific novelty of the research is as follows:

- a mechanism has been developed to improve the efficiency of bachelor's and master's training management based on optimizing the number of subjects and reducing the period of study by one year due to the need to switch to the concept of "Education throughout life" ("life-learning") in accordance with the principle of controlling management aimed on the results of a modern innovative economy;
- proposed a multi-stage model of management of improving the quality of higher education and substantiated the need to use a national in form and global in content educational strategy ("mentor-student", innovative management, comparative analysis of the components of HEU activities ("benchmarking"), training based on general professional and special competencies ("tuning"), anti-plagiarism ("TURNITIN") and the internal management system INTRANET);
- substantiated proposals for the organization of training on the basis of the "Introductory-intermediate-advanced" stages in curricula, programs and major subjects, directed from simple to complex in improving the efficiency of personnel training management;
- a mechanism for the emergence of healthy competition between students based on the issuance of differential-categorical diplomas of a new type and the application "Qualitative indicators of a bachelor" (rating of intellectual, spiritual and managerial abilities) to graduates of educational areas of a bachelor degree in accordance with the level of performance based on educational standards;
- a model has been developed for the distribution of graduates to vacancies of enterprises, based on the needs, proposals of the labor market, educational services and relevant areas (specialties) of HEU, as well as a mechanism for increasing the efficiency of employment of bachelors and masters according to the "Methodology for determining the socio-economic efficiency of the activities of HEU graduates working for enterprises and organizations";
- a mechanism for the application of SWOT-analysis and a new element of marketing management (8P – professional knowledge) and forecasting the results of the integration of higher education – science – production in increasing the rating, competitiveness and efficiency of HEI in the context of an intense competitive environment in the process of globalization.

**Research results.** The practical results of the study are as follows:

- as a result of the reduction of the training period for bachelors and masters by one year, the number of repetitive subjects in the previous stages of continuing education is optimized, the level of provision of organizations and enterprises with the necessary

- specialists is accelerated by one-year, annual costs of training HEU bachelors are saved;
- the developed multi-stage model of management of improving the quality of higher education and the proposal for the application of a national in form and global in content of an educational strategy will lead to an increase in the level of knowledge, qualifications and an indicator of the overall rating of HEU graduates in improving the efficiency of training management;
- in improving the efficiency of personnel training management, the creation of curricula and programs based on the “Introductory-intermediate-advanced” stages contribute to an increase in the level of improvement of the knowledge and qualifications obtained, directed from simple to complex, from private to general, from individual to functional in the subjects of major areas (specialties) and the gradual formation of creative abilities;
- as a result of the issuance of differential-categorical diplomas to bachelors and the application of quality indicators, healthy competition among students in the learning process and qualification practices, the desire to study on the basis of high rating indicators; the need of professors and teachers for self-education is expanding, for students to acquire world knowledge on the basis of modern ICT and pedagogical technologies; the image and position of HEU are enhanced; the possibility of issuing applications for highly qualified personnel and their selection is expanding;
- the model of distributing graduates to vacant positions in enterprises based on the relevant areas and specialties of HEI reduces the period of optimal employment of highly qualified personnel by an average of 33.3% in the context of areas (specialties) and regions; "The methodology for determining the socio-economic efficiency of the activities of HEU graduates working in enterprises and organizations" allows to determine the socio-economic effect in society from HEU graduates and highly qualified personnel working at enterprises;
- the proposed mechanism for the application of SWOT analysis and a new element of marketing management (8P – professional knowledge) is one of the areas of effective management of a competitive market; the proposal for forecasting the results of the integration of higher education – science – production creates an opportunity to obtain preliminary information about possible situations arising in the objects of integration.

**Evidence system and scientific reasoning.** The object of the research is the management system for the training of highly qualified personnel of the Republic of Uzbekistan, higher educational institutions and the integration processes of the higher education system with enterprises. The subject of the research is the management of scientific and organizational hierarchical relations and connections in the process of training highly qualified personnel. When performing research works, methods of observation, generalization, system-logical and SWOT analysis, multifactorial and dynamic comparison, discounting, periodization, correlation and economic and mathematical modeling were applied.

The reliability of the research results is due to the expediency of the approaches and methods used in the work, obtaining theoretical and statistical information from official sources, approbation and implementation of the presented conclusions, proposals and recommendations in practice, confirmation of the scientific results obtained by authorized bodies.

Based on the obtained scientific results, conclusions and proposals for the effective management of the training of highly qualified personnel:

- developed proposals for improving the efficiency of management of training bachelors and masters based on optimizing the number of subjects in the higher education system to reduce the period of study by one year in connection with the transition to the concept of "Education throughout life" ("life-learning"), as well as the principle controlling management aimed at the results of a modern innovative economy has been introduced into the practice of the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan (reference No. 89-03-3873 of November 13, 2018 of the Ministry of Higher and Secondary Specialized Education). As a result of their introduction into the activities of this ministry, the provision of highly qualified personnel in the country per 10,000 population increases, the level of knowledge perfection, qualifications of HEU students, the intellectual potential of members of society, as well as indicators of the country's human development index increase;
- the developed multi-stage model of management of improving the quality of higher education and proposed for the application of the national in form and global in the content of the educational strategy ("mentor - student", innovative management, comparative analysis of the components of HEU activities ("benchmarking"), training based on general professional and special competencies ("tuning"), anti-plagiarism ("TURNITIN") and internal management systems INTRANET) have been introduced into the practical activities of the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan (reference No. 89-03-3873 dated November 13, 2018 of the Ministry of Higher and Secondary Specialized Education ). The introduction of this scientific novelty into practice, increasing the content of tasks and the level of responsibility of educational participants at each stage, led to an increase in management efficiency by an average of 9.0% and an overall rating of graduates by 0.1 points, as well as to a decrease in costs per student in within one academic year for 6.5 thousand soums (0.79 USD). As a result of the increase in the rating of HEU graduates by 0.1 point in 2017, an economic effect of 10.5 billion soums was obtained;
- proposals for organizing training based on the "Introductory-intermediate-advanced" stages, directed from simple to complex curricula, programs and majors in order to improve the efficiency of personnel training management, have been introduced into the practice of the Ministry of Higher and Secondary Specialized education of the Republic of Uzbekistan (certificate No. 89-03-3873 dated November 13, 2018 of the Ministry of Higher and Secondary Specialized Education). On the basis of this scientific novelty, a sequence of drawing up curricula and programs has been achieved, an increase in the efficiency of personnel training management on the basis of a gradual study of subjects from simple to complex;
- the proposed mechanism for creating healthy competition between students based on the issuance of differential-categorical diplomas of a new type and the application "Qualitative indicators of a bachelor" (rating of intellectual, spiritual and managerial abilities) to graduates of educational areas of a bachelor's degree are introduced into the practice of the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan (reference No. 89-03-3873 of November 13, 2018 of the Ministry of

Higher and Secondary Special Education). This will lead to the emergence of healthy competition between students in educational processes in relation to the level of academic performance based on the requirements of state educational standards, will create an opportunity for employers to evaluate and make decisions on employment based on a bachelor's degree, as well as the main (assessment and rating according to GOST (interstate standard)) and secondary (quality indicators) of its applications;

- a developed model for the allocation of graduates to vacancies of enterprises based on the needs, proposals of the labor market and educational services of the relevant areas and specialties of HEU, as well as a mechanism for increasing the efficiency of employment of bachelors and masters according to the "Methodology for determining the socio-economic efficiency of the activities of HEU graduates working in enterprises and organizations ", introduced into the practice of the State Inspectorate "Davsuvkhujaliknazorat (State Water Management Control)" under the Cabinet of Ministers of the Republic of Uzbekistan (certificate No. 107 of April 7, 2017 of the State Inspectorate "Davsuvkhujaliknazorat"). The implementation of the proposed model into practice accelerated the process of employment of graduates and influenced the high demand and the degree of satisfaction of the needs of enterprises for highly qualified personnel;
- the proposed mechanism for the application of SWOT analysis and a new element of marketing management (8P-professional knowledge), as well as forecasting the results of the integration of higher education-science-production to improve the rating, competitiveness and efficiency of HEI in a highly competitive environment used in teaching the subject "Assessment of the competitiveness of an enterprise" to students in the specialty 5A230108 "Management against monopoly and the development of competition" (reference No. 89-03-3873 dated November 13, 2018 of the Ministry of Higher and Secondary Specialized Education). As a result, the level of theoretical and practical knowledge of students increased, which served to develop a competitive market in the management of personnel training at HEU;
- received scientific proposals and recommendations for improving the management efficiency of training highly qualified personnel are reflected in paragraphs 10, 12 and 14 of article 5 "Main directions of state youth policy"; in clauses 2, 4, 6 and 7 of Article 8 "Powers of local government bodies in the field of state youth policy"; in clauses 4-6 and 8 of article 10 "Powers of state education authorities and educational institutions in the field of state youth policy"; in clauses 2, 5 and 8 of article 25 "State support for gifted and talented youth" of the Law of the Republic of Uzbekistan "On state youth policy" (reference No. 04 / 5-06-086 of April 28, 2017 of the Committee on Science, Education, Culture and sports of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan). When preparing regulatory and legislative documents, the proposals and recommendations of this research work were used.

**Scientific apparatus and bibliography.** The scientific significance of the research results lies in the development and application of new methodological approaches that make it possible to study complex multifactorial processes, in particular, such as the higher education system. In addition, it allows you to optimally manage the system and processes to achieve the set goals, make effective decisions, develop comprehensive programs and, on this basis, reduce the cost of

training highly qualified personnel, and also be widely used in monitoring the management of improving the quality of higher education.

The practical significance of the research results lies in the fact that the results obtained make it possible to comprehensively analyze the external and internal factors of personnel training, make effective decisions on system management, organize the educational process on an alternative basis, form a competitive environment, provide HEU graduates with differential-categorical diplomas, employ and to determine their socio-economic efficiency in the country's economy. The proposals and recommendations developed by the author are explained by the use of the subjects "Economics and Management of Education", "Personal Management", "Strategic Management" and other areas of undergraduate education in teaching.

Our research led to the following conclusions:

1. In accordance with the "Strategy of Action for Five Priority Areas of Development of the Republic of Uzbekistan in 2017-2021" and international standards, higher educational institutions are called upon to become educational, scientific, cultural and educational centers of the country, as well as to train highly qualified competitive personnel that meet the challenges of our time.
2. The most important factor in increasing the efficiency of management of training highly qualified personnel is the scientific and pedagogical potential of HEU teachers. Therefore, it is necessary to effectively use the potential of scientific and pedagogical personnel of the highest category of HEI and NRUs (academicians, professors, doctors of sciences, associate professors, candidates of sciences, doctors of philosophy, etc.), to stimulate their work in accordance with the quality and quantity of labor, to involve hard-working postgraduates, undergraduates, doctoral students and independent researchers in science more broadly.
3. Currently, in the world, including in the Republic of Uzbekistan, the demand for higher education is increasing, with the competition for employment, however, the values of diplomas are decreasing, and the knowledge and technologies obtained in advance are rapidly becoming obsolete. All these requires a revision of some areas of education, specialties and professions. To solve these problems, it is advisable to move from the concept of "Education for life" to the concept of "Education throughout life". In the concept of "Education throughout life" based on the need for qualitative indicators of knowledge and qualifications of highly qualified personnel, it is necessary to optimize the number of subjects in the educational process, to provide and develop personal communication and analytical skills of students' excellence, to teach them to overcome difficulties, study and acquire, and also create modern knowledge corresponding to the economic development of the country.
4. Higher educational institutions should constantly improve their curricula and programs, move to the step-by-step teaching of subjects, observing the principle from simple to complex, from private to general, from individual to complex, effectively manage education along the chain of "incoming-intermediate-final" ("Introductory-intermediate-advanced"), as is customary in developed countries; with the gradual teaching of subjects, starting from the 2nd year of the bachelor's degree, to reduce the hours of general



education disciplines and to expand the possibilities for students to choose major subjects.

5. In order to increase the efficiency and competitiveness of HEU, it is advisable to pay special attention to the following indicators: the image of HEU and its prestige among young people, before society, corporations and enterprises; attractiveness of areas of education (specialty); advantages and disadvantages of the ongoing complex of integration of higher education, science and industry, developed as a result of a SWOT analysis; the state of the material and technical base and the quality of HEU education; competition for admission in educational areas of the bachelor's degree and specialties of the master's degree; the scope of contracting agreements between HEU and customer enterprises for the training of qualified personnel; scientific and pedagogical potential of teachers.
6. In accordance with the knowledge and qualifications of graduates of the educational directions of the bachelor's degree of HEU, it is advisable to issue differential-categorical graduation documents of the state standard with a secondary appendix "Qualitative indicators of the bachelor" (intellectual, spiritual and managerial abilities). This scientific proposal will create healthy competition among students in the educational process, expand the opportunities for employers to objectively assess HEU graduates when hiring.
7. With the help of econometric models, the influence of the educational qualification of highly qualified personnel on the economic development of the country is determined. These models show that an increase in the number of HEU graduates and capital investment by one value, all other things being equal, will respectively lead to an increase in GDP per capita production by 31 and 95 US dollars. Consequently, an increase in the number of highly qualified personnel and an increase in the volume of capital investments play a leading role in the socio-economic development of the state.
8. To increase the efficiency of management of highly qualified personnel training in accordance with the HEI's capabilities for the demand and needs of the labor market, it is advisable to distribute graduates of undergraduate and graduate programs on the basis of corresponding vacancies in regional enterprises. This scientific proposal shortens the optimal employment period for HEU graduates. Based on the Methodology for Determining the Socio-Economic Efficiency of the Activities of HEU Graduates Working at Enterprises and Organizations, opportunities have been created for assessing the overall socio-economic effect of highly qualified personnel.
9. In the Republic of Uzbekistan, in accordance with international standards, to improve the efficiency of highly qualified competitive personnel, it is advisable to apply the following measures:

based on the tasks outlined in the "Action Strategy" for the development of the higher education system, it is necessary to switch to quality management;

develop and put into practice the concept of "Education throughout life";

taking into account the peculiarities of educational areas, to reduce the preparation period for bachelors and masters, respectively, from four to three years and from two years to one year by eliminating the number of repetitive subjects (disciplines);

introduce a multi-stage model for managing the improvement of the quality of education in HEI;

to implement the "mentor-student" system for the implementation of individual work with students of educational areas of the bachelor's degree;

to implement an improved model of the quality of teaching staff, to take into account the five-year indicators of the quality model of the applicant when hiring him and extending his office on a competitive basis;

use the results of forecasting in the effective management of the integration of higher education, science and production;

to open and expand correspondence, special correspondence and evening forms of bachelor's degree of higher education, to implement on-line and off-line modes of distance education, to organize the training of second and subsequent higher education in correspondence forms and at Internet faculties;

based on the results of test tests in the areas of undergraduate education and applications of the applicant during the submission of documents to HEI, if necessary, create an opportunity for him to enroll in the relevant areas in another HEI;

to increase the quota for the preparation of masters on the basis of contractual agreements, to expand the opportunities for admission to study on preferential terms for bachelors with honors degrees in the relevant and related specialties of the magistracy.

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