

CURRENT ISSUES OF SCIENCE, EDUCATION AND PRODUCTION INTEGRATION

Abdulla Bayeshanov

Gulistan State University, Faculty of Socio-Economics

ABSTRACT

This article emphasizes the urgency of developing cooperation between science, education and industry, the importance of large-scale reforms aimed at developing higher education and research institutions in this area in our country. New forms of cooperation with manufacturing enterprises in order to establish research institutes in the country, to establish inter-institutional laboratories, to support small innovative creative groups based on higher education institutions, to produce high-tech products in cooperation with other higher education institutions the importance of the planned introduction of highly qualified foreign specialists. Also, the high share of research sectors of higher education institutions in the total scientific potential of industrialized countries such as the United States, the European Union, Japan, their successful operation, the use of the experience of developed countries in this area to ensure the competitiveness of our economy. The idea of stimulating research activities in higher education and increasing its impact on innovative development, revising the functions of the research sector was put forward.

Keywords: Integration, innovation, knowledge through science, technology, technopark, university science, practice, competition, foreign experience.

INTRODUCTION

Over the past three years, our country has been carrying out large-scale accelerated reforms within the framework of the Action Strategy. The goal is to keep pace with modern development, modernize all spheres of society, make effective use of existing opportunities, develop mechanisms for its implementation, mastering the best practices of development models. In today's highly competitive environment, the development of export-oriented products, having its own product market in a market-driven environment requires the development of the country's innovative economy.

Developed countries have made it their strategy to value and develop the intellectual wealth that determines the development of society. In our country, a number of measures are being taken to support talented youth, modernize education, increase the capacity of higher education institutions [1-2].

On the basis of the adopted programs, increase investment in human capital development, further improve the integration of education and production, significantly increase the number of enterprises investing in science, direct existing scientific potential and funds to important priority research for economic sectors and solve specific problems. privileges and preferences, introduction of new technologies and wide use of intellectual capital opportunities [3].

The Resolution of the President of the Republic of Uzbekistan "On measures to further develop the system of higher education" was an important event aimed at further improvement and comprehensive development of the system of higher education [1]. According to him, the

establishment of close cooperation with the world's leading scientific and educational institutions in their areas of higher education, the introduction of advanced foreign experience in the educational process, in particular, the improvement of internships and training of promising teachers and researchers in leading foreign educational institutions. Based on the priorities of socio-economic development of the country, measures have been identified to radically reconsider the content of training, to create the necessary conditions for training specialists with higher education in accordance with international standards. [Measures for further development of higher education Resolution on Tashkent, 2017. April 20.] The consistent and systematic implementation of reforms in the sector will increase confidence in the future and lay the foundation for the integration of education and industry.

Elvin Toffler [3], through his theory of the "third wave", puts forward a detailed scientific-popular view of today's society. [Toffler O. Third wave. Moscow. : AST, 2002.] Indeed, the experience of the last decade of the XXI century shows that the key factor in the economic growth of the world's leading countries is not only financial capital and means of production, but also knowledge and new ideas to create intelligent, competitive, marketable products .At the same time, "fields" have been created in which various forms of integration of science and industry, scientific developments, and products of activity created by different intellects are grown.

The aim of this study

Establishment of research institutes in the country, organization of inter-university laboratories, support of small innovative creative groups on the basis of higher education institutions, development of high technologies in cooperation with other universities and introduction of new forms of cooperation with high-tech enterprises; It is planned to create a favorable environment for the involvement of qualified foreign specialists, work in the field of science and higher education.

DISCUSSION

Indeed, the experience of the last decade of the XXI century shows that the key factor in the economic growth of the world's leading countries is not only financial capital and means of production, but also knowledge and new ideas to create intelligent, competitive, marketable products .At the same time, "fields" have been created in which various forms of integration of science and industry, scientific developments, and products of activity created by different intellects are grown.

In such areas, mainly in universities, the research sector is successful. It is the research sector of universities that has a large share in the total scientific potential of industrialized countries (14.3% in the US, 13.4% in Japan, 22.5% in the EU). Today, the National Education Goals Program is in place in the United States, according to which education is a key indicator of quality of life. It is the heart of art, culture, the creative potential of science, security and economic power [4,5]. Education is the key to ensuring America's competitiveness in the world in the 21st century. [Mayburov I. Vysshshee obrazovanie v razvityx stranax // Vysshshee obrazovanie v Rossii. №2, 2003. p. 133.]

In recent years, a number of measures have been taken in our country to intensify the use of the results of scientific and innovative potential of higher education institutions.

The surviving part of the intellectual potential will help build a new economy and achieve success as a driving force. If a systematic and targeted policy is pursued, relying on the specific features of the laws and knowledge in the economy, the efforts will bear fruit in the near future. Based on the formation of the main elements of the national innovation system - a prerequisite for the transition to an innovative economy, it includes the following systems:

1. Restoration of knowledge in response to potential market demand through fundamental and scientific research in the Academy of Sciences of the Republic of Uzbekistan, industry research institutes, as well as universities of the country.
2. Introduction of scientific and technical results in the testing and production of applied research and technological developments in educational institutions and scientific organizations.
3. Production of competitive innovative products in industry and agriculture.
4. Development of innovation system infrastructure.
5. Training of personnel working in the field of innovation.

As a result of further scientific research, this structure has been improved to include modern-looking structures, including: a system for creating new links in knowledge; education and training; introduction of products and services in production; creation of innovative infrastructure: the formation of a market of high-tech products and services, as well as the creation of opportunities to be supplemented by the positions of "regulatory support", "government support" and "innovation clusters".

At present, one of the main problems of the country's innovative development is the "disruption" of the innovation chain, the inability to bring newly developed products to the stage of mass production at the industrial level. It is the lack of specialists who provide the "connection" between science and industry. Therefore, an integral part of national innovation systems is the training of new knowledge, as well as the training of new personnel is the most important issue.

It is obvious that Uzbekistan should follow the example of an alternative approach used in a number of countries, which will allow it to skillfully combine it with the component of creating new knowledge and find an optimal solution to the challenges facing the country.

The system of education through science is provided by a set of organizations conducting fundamental and applied research in Uzbekistan. Their implementation is carried out by the Academy of Sciences of the Republic of Uzbekistan, line ministries, scientific sectors of higher education, scientific departments of industrial enterprises, design organizations, design and project design organizations.

The development of the science sector in higher education in Uzbekistan continues in line with global trends. One of the main reasons for the focus of the higher education system on research is the search for effective models for the formation of innovative economies in these countries. There is a great deal of experience in this field in some countries, in particular the United States, which is the founder of such a trend, and this development was observed in the countries of Western Europe and Asia in the 1980s.

According to the analysis available today, universities in the United States play a particularly important role in imparting new science-based knowledge.

Studies show that the impact of American research universities on the development of science and technology, as well as the impact on the U.S. innovation economy, is significant. Many of those who have made the most important scientific discoveries at these universities are Nobel Prize winners. In the United States, the role of universities in the economy, in the growth of gross national income is 15-20%. In addition, the growth of the economy from 20% to 40% is led by the improvement of scientific knowledge and their application, as well as fundamental research conducted in higher education institutions in this process. For example, the share of fundamental research conducted by universities in the United States accounts for 55% of the total volume performed in the country. Russian researchers regularly refer to American research universities as a source of positive experience and use their results as a stepping stone. Russian scientist I. Based on in-depth scientific research conducted by Ignatov, the U.S. economy, which is focused on innovation, can be seen not only in the specific historical conditions, but also in the public policies of countries in this area before the formation of the modern situation. The success of this innovative model:

First, the main reason for the success in the path of innovative development is fundamental research.

Second, university research represents the initial link in the functional chain that leads to the introduction and commercialization of new scientific knowledge in the form of innovation and leads to the production of innovations.

Research funding is still (not private-corporate) the cornerstone of U.S. science policy.

The national innovation system of East Asian countries is based on unique principles. A study of the experience of the countries of the East Asian region in building an innovative system leads to the conclusion that the use of their experience for Uzbekistan has little prospects. Our country has a sufficiently developed and still preserved segment of fundamental science (which does not exist in these countries). It is also known that due to the main differences in the mentality of the majority of the population, the format of obtaining technology from them to some extent (in some sectors and segments of science and the real economy) is of interest to our country.

Another third (alternative) type of innovative development model used in agricultural countries, which do not have great potential in the field of basic and applied science and rich in raw material reserves, processing technology is not developed or their sale is not regulated. It can be seen in the national innovation systems of countries such as Thailand, Chile, Turkey, Jordan.

In their innovation policy, these countries pay special attention to training in the fields of economics, finance, sociology and labor psychology, management, as well as the development of certain sectors of light industry. At the same time, Turkey currently has an intermediate position in the development of an innovative economy, which is characterized by the process of creating key components of the national innovation system.

Thus, 12 technoparks and technology development zones have already been established in Turkey, and they are aimed at strengthening cooperation between universities and industry. Special working conditions will be created within such technoparks and technological zones, and legal financial support of researchers and entrepreneurs will be provided.

From the point of view of adopting the experience of an alternative model of innovative development for the Republic of Uzbekistan, special attention to the development of the quality

of the higher education segment in various areas of the innovative economy, as well as the development of creative industry and tourism industry can be effective.

However, before moving on to the conclusions on the recommendations for the selection of a key factor in the innovative development of the Uzbek economy, we will consider another important aspect of the problem: it depends on how publicly accepted the proposed model of development.

Thus, the above considerations allow us to draw a number of conclusions.

As for the main, leading sources of innovative development of the country, the experience of foreign countries and the idea that exists in the Russian scientific community, "academic science or university science" has no clear prospects. As mentioned above, a reasonable combination of both components should, if possible, complement them with the corporate science sector and further intensify the contribution of higher education to the innovative socio-economic development of Uzbekistan. Thus, along with economic development, it defines three positions:

"First, it creates the necessary conditions for scientific and technological progress, the necessary conditions for the development of modern science-based production and advanced technologies;

secondly, it serves as a basis for training qualified personnel for all sectors of the national economy;

thirdly, one of the promising areas of business activity (sale of patents, licenses, etc.)”.

In the social development plan, "university science helps to increase the social activity and demand of the population (primarily intellectuals) has a direct impact on the overall level of culture and education in society. The latter, in turn," that is, it politically reflects the importance of the research sector of the higher education system for society.

In addition to describing the importance of the research sector of the higher education system, it should be noted that a number of specific functions of this system have been fulfilled.

To date, these main tasks have been three: education (training of highly qualified personnel); research (acquisition of new knowledge as a result of scientific research) and science - informatization (dissemination of new knowledge to the public through the publication of articles and monographs, as well as scientific conferences, symposia.

CONCLUSION

It should be noted that the research sector of higher education in the country's research and development system does not meet the level of demand. Currently, special attention is paid to the development of the university science sector in order to find alternatives to the system of creating new science-based knowledge and to revive them. At the same time, focusing on the following issues will have a positive effect:

- To increase the number of internships in production enterprises, defined in the training programs of HEI;

-Organization of the educational process on the basis of the principle of imparting knowledge through science. Early formation of research skills in students, development of their interest in science;

-Establishment of a mechanism for the creation of technoparks under the HEI, the creation of innovative developments in the technoparks, testing and implementation of innovations in production;

-HEIs not only provide education, but also act as a research center;

- It is necessary to establish cooperation with manufacturers through the organization of innovation fairs, to support science through contracts.
- Establishment of scientific and innovative cooperation between HEI and free economic zones;
- Textbooks and manuals in some subjects are outdated, as well as laboratory equipment 40-50 years ago, as a result of which the connection between the knowledge acquired by the student and the modern manufacturing enterprise is broken. To overcome this problem, it is advisable for the student to get acquainted with the latest science in the field, to be aware of the latest publications, to study in classrooms equipped with modern laboratories, as well as to have internships in such enterprises.

Encouraging research activities in higher education and strengthening efforts for innovative development are reflected in the competitiveness of the country's economy.

REFERENCES

1. Resolution of the President of the Republic of Uzbekistan "On measures to further develop the system of higher education." Tashkent, 2017. April 20.
2. Tofler O. Third wave. Moscow. : AST, 2002.
3. Mayburov I. Vysshee obrazovanie v razvityx stranax // Vysshee obrazovanie v Rossii. №2, 2003. p. 133.
4. Vulfson B.A. SStrategiya razvitiya obrazovaniya na Zapade na poroge XXI veka. –M., 199. –S. 34.
5. Ignatov I. I.Sovremennye tendentsii razvitiya innovatsionnogo obrozovaniya SSHA. www.cuberleninka.ru