



FOREIGN EXPERIENCE IN THE PREPARATION OF MASTER'S PROGRAMS AIMED AT THE DEVELOPMENT OF INFORMATION AND MANAGEMENT COMPETENCES

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ABSTRACT

For the implementation of effective training of management personnel, it is very important to build a trajectory for the professional development of an individual and to determine effective mechanisms for the development of information and management competencies. The article presents the foreign experience of technology for the development of information and management competencies. As a result of the study, we found that the use of foreign experience allows a more critical approach to the problems of personnel training in their own country, gives a better understanding of ways to improve the content and methods of assessing the quality of education. A comparative analysis of foreign and national practice creates the preconditions for the introduction of the most effective elements into the education system in higher educational institutions of Uzbekistan.

KEYWORDS

Information and management competence, master, technological training model, modern approaches.

INTRODUCTION

In a fairly short period of independence, Uzbekistan has achieved significant economic growth in many areas of activity. However, the condition for the long-

term economic well-being of the country is the development of human capital, namely its educational and intellectual potential. The field of information



technology has become a vast field of practical activity of people, characterized by an ever-expanding scope and an ever-increasing demand for highly professional staffing. This is due to the use of information technologies in various fields of activity, the implementation of the concept of a global information infrastructure. The training of highly professional specialists in the republic, who are able to use and implement advanced information technology developments in practice, is becoming a strategically important task for society.

Currently, over 20 higher technical educational institutions of Uzbekistan are engaged in the preparation of masters. Among them, the Tashkent State Technical University named after Islam Karimov, Tashkent University of Information Technologies, Namangan Civil Engineering Institute, Karshi, Samarkand, Fergana branch of the Tashkent University of Information Technologies and a number of other higher educational institutions should be singled out. Today in our republic there are highly qualified specialists, we have rich experience and potential. However, it is necessary to take into account that the development of technologies dictates new requirements. If you look at the list of specialties proposed by the Career Space consortium and a number of standards in higher educational institutions that are in demand in Western countries, then we still do not fully provide educational material on the formation and development of information management competencies [1].

This means that we need to introduce training in those subjects that can be useful in the near future. The foundation for these transformations was laid with the adoption of Decree No. PP-4699 of the President of the Republic of Uzbekistan dated April 28, 2020 “On measures for the widespread introduction of the

digital economy and e-government”, which determined the main vector for the development of the ICT sector in the near future. The logical continuation of these works was the Decree of the leader of the country “On approval of the Strategy “Digital Uzbekistan - 2030” and measures for its effective implementation”, adopted on October 5, 2020. The large-scale policy document includes road maps for the digital transformation of priority economic sectors and regions. According to the Decree, in 2020-2022, it is planned to introduce more than 400 information systems, electronic services and other software products as part of the socio-economic development of the regions, as well as over 280 information systems and software products to automate management, production and logistics processes at enterprises in the real sector of the economy .

So, increasing the competitiveness of national personnel in the labor market and increasing academic mobility between countries require harmonization of the formats of educational programs in various countries within the framework of the Bologna process.

The educational systems of the leading countries of the world differ in the types of management of educational institutions, the construction of educational programs, as well as a number of other features, but at the same time they have a similar structure, consisting of three levels: bachelor, master, doctor of philosophy. The duration of study at the first stage takes three or four years, at the second - a year or two, at the third - three years.

In some countries, such as Sweden, Denmark, Finland and Italy, they have chosen the path of intensive reform of the education system [2]. It is important for universities in these countries to provide students with



a practical, marketable education that will contribute to personal and social prosperity. Some universities in the UK and Scotland have introduced "sandwich courses" to give students the opportunity to gain hands-on experience while studying. The United States was one of the first among the economically developed countries of the world to start changing approaches to the training of future specialists and the use of new information technologies in various fields of activity. Back in 1991, the US Department of Education adopted the program "America 2000: Education Strategy" [3].

In this program, the main direction of the education reform is the introduction of new information and computer technologies in teaching and education management. The high level of informatization of the economy, the need for specialists with practical computer skills and modern telecommunications dictate new requirements for the technical education system.

Today, the American model of training specialists in the field of engineering and technology is very authoritative and popular all over the world. According to this model, after 12 years of high school education, it is necessary to study for another 4 years in an accredited engineering program and receive an academic degree. The status of "Professional specialist" is assigned after a certain period of successful work in the specialty [4]. This model of training specialists in technical specialties is being implemented in the following countries - Washington Accord (WA) and Engineers Mobility Forum (EMF): USA, Canada, Japan, South Korea, Australia and others.

According to the requirements of the EMF, the degree of "master" in the field of technical sciences is not fundamentally important for practicing practical engineering activities, it is considered rather as

evidence of a deeper specialization. To obtain the status of a professional specialist, the accumulated positive experience of practical work (at least 7 years) is much more important.

In the United States and the United Kingdom, a master's degree can be academic or professional, research-oriented or professional development.

In European countries, within the framework of the Bologna process and within the framework of the European system of certification (registration) of engineers (Federation Europeenne d'Associations Nationales d'Ingenieurs, FEANI), it is assumed that after mastering the 3-year first cycle program in the field of engineering and technology at the university a graduate with an academic degree "bachelor" will be ready to start practical engineering activities. The title of "European engineer" can be obtained by a specialist with an academic degree "bachelor" after four years of positive practical work experience. Unlike the EMF system, in the European certification system, two years of practical activity of a specialist with a bachelor's degree can be replaced by university studies in a 2-year second cycle program with the award of an academic master's degree.

The key problem of education is its quality. For its successful solution, the recommendations of the Council of Europe and international standardization organizations ACM (www.acm.org) and IEEE (Institute of Electrical and Electronic Engineers, www.ieee.org) are relevant. An important place in the recommendations is given to the development of standard educational programs.

In Japan, the Ministry of Education has developed and implemented the program "Education in the era of informatization". The program recognizes the importance of informatization and the need to finance



and stimulate fundamental and applied information research, work on the study of the characteristics of information, its use and effective application, research on the problems of the developing information society and its impact on humans.

Based on the foregoing, the main goal of education in higher educational institutions is to train qualified, competitive personnel who are ready for continuous professional growth, who are specialists in their profession and are able to perform relevant work in all areas of professional activity. Most fully, in our opinion, the professional qualities, knowledge and skills of a specialist can be determined on the basis of a competency-based approach, i.e. based on the identification of each specific specialist's competencies and assessment of their level. Competency-based approach is now increasingly used in solving the problem of improving the efficiency of specialists in the context of the formation of the information economy. The possibilities of the competence-based approach are quite wide. In particular, the competency-based approach to management is a methodological, system-forming and relatively new direction in management theory and practice, due to changing market conditions and the need for organizations in the professionalism and commitment of personnel that determine the success of activities.

Abroad, it is customary to distinguish three main approaches to defining and introducing into the practice of education a competence-based interpretation of the quality of learning outcomes: a behavioral approach (USA), a functional approach (Great Britain) and a multidimensional and holistic approach (France and Germany). Much of the current American literature has mainly focused on work-related (functional) competencies, which are based on behavioral competencies. While the behavioral

approach to competencies, most strongly developed by McClelland, is still very popular in the US, the broader concept of competencies, which emphasizes the importance of job-related functional skills and knowledge, is making significant progress. So, for example, as an accepted practice of introducing a competency-based approach to higher education in the United States for the rapid correction of the content and technologies of education, there are the following forms of obtaining “feedback” from employers: constant contact of the university with the labor market in order to track its requirements and ongoing changes, taking into account the requirements industry in the development of curricula, the constant updating of knowledge and skills of specialists due to their obsolescence; evaluation of the success of training programs in preparing graduates for later life; periodic studies of the professional careers of graduates, using the results to evaluate and adjust programs (for example, the Executive Committee of the University of Oklahoma, USA, can be an example of local practice for all of the above activities). In addition, one can additionally note such forms of providing “feedback” between an educational institution and employers of future specialists, such as programs for joint training of specialists by universities and companies where interaction is carried out at the stage of organizing the educational process (International Engineering Program of the University of Rhode Island, USA) [5].

The German approach to the implementation of the competency-based model is of particular interest, since a country with deep and firmly rooted educational traditions was able to quickly introduce changes related to competency-based innovations, which primarily affected the understanding of the quality and criteria for the effectiveness of education. The German educational system has shown sufficient flexibility,



having rebuilt on a competency-based approach as the basis of functional higher education, which minimizes the gap between the requirements for a graduate and the real level of his knowledge and skills. Most importantly, in the German model, there has been a qualitative shift towards educational and cognitive competence, which is focused on creating the ability and readiness of a person to learn all his life. Today, the German competence model is based on the theory of F. Weinert, it is built on the relationship between knowledge and competence. The competent performance of some action presupposes that a person knows what he is doing and why. Simple skills obtained on the basis of demonstration and subsequent imitation do not develop the student's readiness to independently cope with more complex problem situations [6]. At present, 350 professional training profiles have been identified in Germany, compiled according to a common format within the framework of a competency-based approach and including competencies within a single terminological apparatus.

The socio-economic changes taking place in the world today are actively affecting many social institutions, including the education system. The question of the mission, role, and significance of education in the development of society needs to be resolved [7]. Russian education is especially in need of modernization, since it largely relies on the transfer of a certain amount of knowledge to students, not having time to keep track of all the new needs of the market and update the knowledge system in accordance with these needs. Filling the student with a certain amount of information from different areas, traditional education, which is also commonly called disciplinary, does not teach them to systematize this knowledge of various disciplines into complex skills necessary to perform specific tasks. Thus, the assessment of

students only by the amount of knowledge that they can reproduce is not objective, since it does not reflect the real readiness and ability of future young professionals to work independently in the professional field. It is necessary to move from disciplinary education, which has now become dysfunctional, to functional education, which will systematize knowledge and skills by function. The meaning of the modern appeal to the problem of the functions of education is to determine the area of institutional responsibility of education and its various subsystems, as well as to more rationally build the organizational structure of education at all its functional levels - from institution to government [8]. And if we can say that the criteria for the functionality of higher education at the present stage are defined and they include: the transmission and production of new knowledge, the training of specialists ready for innovation, the integration of social interests and individual educational needs, then There is a problem so that these criteria do not remain purely theoretical, but turn into practical skills of a university graduate, there is a problem. The functionality of education is ensured by the fact that curricula are developed taking into account the requirements that practice imposes on a person who has received a particular education. Now these requirements are specified using the concept of "ompetence" [10]. Accordingly, one of the main tasks of functional education today is to build such a structure of general educational training that could ensure the formation of professional competencies of an individual. Thus, the missing link that will allow you to transform the knowledge gained in practice.

The process of introducing a competency-based approach into higher education in Russia, which has joined the Bologna movement, has been going on since the beginning of the 21st century. If in the text of the



National Doctrine of Education in the Russian Federation of 1999 there was no mention of such a category as competence, the concept of the Federal Target Program for the Development of Education for 2006-2010 already spoke in detail about competencies, as well as in the revised and supplemented methodological recommendations “Designing the main educational programs that implement the federal state educational standards of higher professional education”, published in 2010, and in the education development program of the Russian Federation for 2013–2020 they are given central positions. In general, the competence approach in determining the goals and content of general education is not completely new and alien to the Russian school. In practice, one often encounters the fact that for all participants in the educational process, competencies are another fashionable trend, a new term that is included in educational materials, but changes little in education itself. While it is necessary to update the entire system, define new goals and values, search for new educational methods and use new technologies.

Turning to foreign experience allows a more critical approach to the problems of training personnel in one's own country, gives a better understanding of ways to improve the content and methods for assessing the quality of vocational education. In many areas of modernization of higher professional education in the republic, the experience of developed, primarily European, countries is tested as a basis today, and the impossibility of their direct copying is affirmed. At the same time, it is recognized that a comparative analysis of foreign and national practice creates the prerequisites for the introduction of the most effective elements in the system of vocational education in the universities of Uzbekistan.

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