



Analysis of Foreign Literature on the Methodology of Assessing the Results of Engineering Staff Training

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Annotation: In this article, research on the achievements of the educational system of developed countries and the mechanisms that implement them is reflected. A systematic approach to the evaluation of foreign pedagogical experience implies the consideration of both individual integrative aspects of the educational process and the education systems of different countries or regions in their unity and internal relations. In our study, systematic analysis of trends and conflicts of educational development, determining the factors affecting this development, selecting the most successful experience, and its assimilation are highlighted.

Keywords: invariant, integrative, tendency, declaration, ECTS, CITE 5A, CITE 5B, creative, innovative.

Introduction

Today, the issue of modernization and fundamental revision of the education system in our country has been clearly defined. The purpose of the modern reform of higher education is to ensure the quality of the educational process. One of the possible ways to ensure the quality of education is to study and analyze the possibilities of introducing foreign pedagogical experience into the educational practice of Uzbekistan, because in the conditions of the formation of an open society in our country, education among other areas of social practice cannot develop without being separated from world experience.

Uzbekistan has begun to reconstruct its higher education system in the direction of comparison with the higher education systems of other European countries, therefore the role of comparative pedagogy is increasing, because the transformative function of comparative pedagogy is not only with the development of fundamental research, but also determined by the practical results of the study of positive foreign experience, which allows to ensure the transfer of the found solutions to the current problems to the educational practice of another country [1].

Among all European countries, it is necessary to point out France, which is a leader in the development of European integration processes, and it has a centralized education system, which affects the dynamics of the development of higher education. The presence of clearly expressed features is typical for the French higher education system: a clear system of diplomas and scientific degrees, a separate division into study cycles, special treatment of diplomas of public educational institutions, which are more prestigious than private educational institutions [2].

This country, which is the only one of its kind in Europe, which is constantly fighting for the preservation of national and cultural-historical traditions in education, nevertheless, within one academic year, "The European Higher Education System architecture was restructured to meet the requirements of the Declaration [3].



The tendency to update the quality control system and procedures of higher education is typical for European countries. In some cases, uniform assessment systems are established for all sectors of higher education. In others, preference is given to assessment bodies specialized in each discipline. The main positive changes achieved within the framework of the development of the Single European Education Area include the creation of a European network of Higher Education Quality Agencies.

Analyzing the organization of monitoring and evaluation in the context of European educational processes is considered one of the important tasks of the current period in order to achieve a more successful process of approximation and harmonization of educational systems of different countries [4]. Therefore, as a research problem, the common and specific features of the educational systems of the two countries were analyzed in the conditions of the harmonization of higher education in Europe.

Theoretical foundations of research

A systematic approach to the evaluation of foreign pedagogical experience implies consideration of both separate invariant-integrative aspects of the educational process and the educational systems of different countries or regions, including their unity and internal relations. Systematic analysis allows to determine the trends and conflicts of educational development, the factors influencing this development, to select the most successful experience, to implement its assimilation and change in practice. In this, not only to determine the positiveness of the experience, but also to determine the content and trends of didactic research; it is important to understand the fundamental rules of building the educational process developed in the world theory and practice of education [5]. In order to use a systematic approach, it is necessary to highlight the features that fully reflect the essence of the system. At the same time, it is important to determine the trends reflecting the trends and conflicts in the development of world educational practice, as well as the factors characterizing this development. In this case, the most valuable positive aspects for pedagogy can be identified in the experience of a specific national education system.

In our research, we use the ideas of the researcher I.R. Lugovskaya on the selection of parameters for the comparison of different educational systems [6]. Therefore, the following main elements of the analysis of the system of university education can be distinguished:

- value-targeted - includes the goals, tasks, functions and priority aspects of university education formed in educational standards and programs of universities;
- substantive-organizational - reveals the content of university education, the principles, methods and forms, technologies of organizing this process;
- assessment-resultative - includes requirements, assessments, control, attestation, monitoring system of university performance and teachers' and students' activities

Any of the proposed group of parameters can be considered sufficient. However, only using the entire set can ensure the integrity of the comparative analysis.

The Bologna Declaration was the result of the objective conditions of socio-economic and socio-cultural development that distinguish modern Europe, in particular:

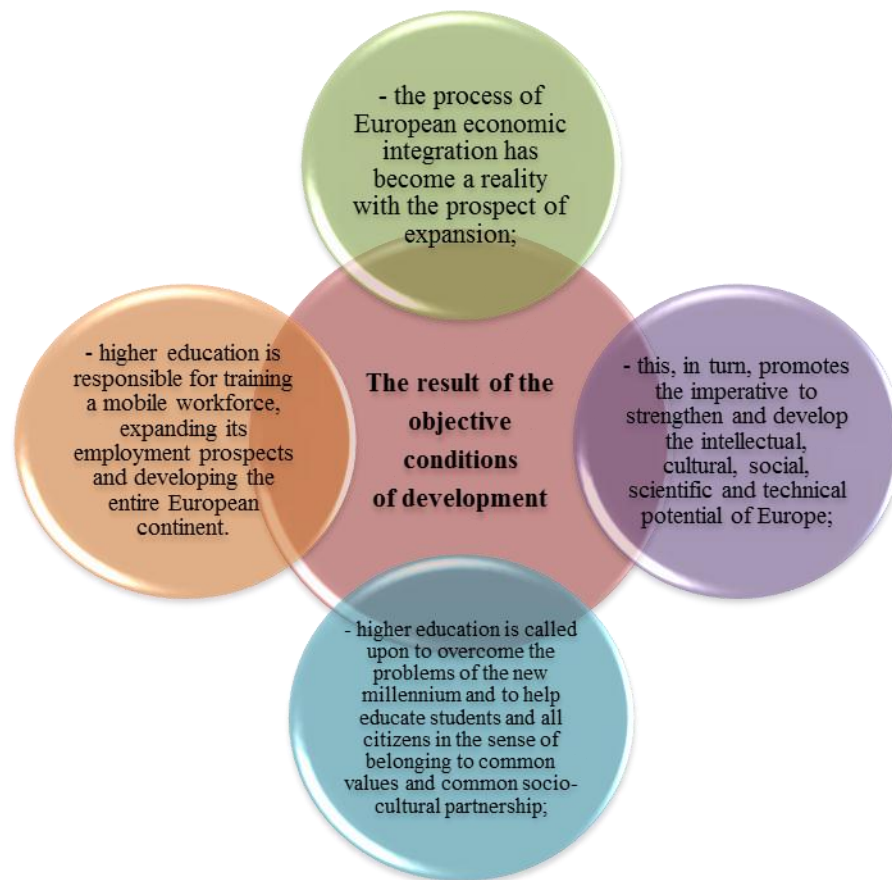


Figure 1. The result scheme of the objective conditions of socio-economic and socio-cultural development

The Bologna process consists of a series of permanent meetings and conferences held in Europe, which set the direction for the creation of a single European higher education area until 2010 [7].

In this regard, the foreign scientists whose names are listed below have conducted their research work in connection with our scientific work. We will increase the effectiveness of our innovative approach to the educational system by comparing the mutual analysis.

- works on modern comparative pedagogical research method (Ye.I.Brajnik, B.L.Wulfson, A.N.Djurinsky, L.S. Ilyushin, M.V.Klarin, I.R. Lugovskaya and others);
- research on the problems of a systematic approach to learning and understanding education as a complex self-developing structure interconnected in its main elements (I.V. Blauberger, M.S. Kagan, V.V. Kraevskii, I.R. Lugovskaya, L.M. Pancheshnikova, M.N. Skatkin, et al.);
- works revealing the essence of the competence approach in modern education (O.V. Akulova, A.G. Bermus V.I. Baydenko, I.A. Zimnyaya, V.A. Kalney, V.V. Kraevskiy, V.A. Kozyrev, N.F. Radionova, A.P. Tryapisyna, S.A. Pisareva, A.I. Surygin, SE. Shishov, Yalalov F.G. and others);
- works determining the essence of monitoring educational results (V.S. Avanesov, V.P. Bepalko, V.A. Kalney, G.S. Kovaleva, A.O. Tatur., S.Ye. Shishov, Abrecht R., Astin Alexander W., Cardinet J., Coste D., Moore D. Ellordt R., Jorro A., Lussier D., Tagliante C, Thelon C, Walvoord V. Et al.);



- Studies on the development of university education in France and European countries (Yu.S. Alfyorov, S.A. Belyakov, SV. Vladimirova, B.L. Wolfson, A.I. Galagan, SA. Golovko, N.A. Ireskaya, A.V. Iresky, T.V. Melnik, L.G. Mojaeva, G. Niv, N.D. Nikandrov, Ye.Ya. Orehova, L.P. Ryabov, M.D. Sushchinskaya, Yu.G. Tatur, L.V. Khoreva, K.N. Seykovich and many others) i integratsionnym protsessam v evropeyskom obrazovanii (Ye.I. Brajnik, M.V. Klarin S. Krol, L. S. Malakhovskaya, T. V. Melnik, V. A. Myasnikov, et al.).

The main principles of the activity are presented in the Sorbonne Declaration of 1998, which was established to create a common space for European higher education and to promote the European higher education system throughout the world:

- To ensure the employment opportunities of European citizens and to increase the international competitiveness of the European higher education system by introducing a system of easily understandable and comparable degrees, including an annex to the Diploma;
- adoption of a system based mainly on the two most important stages. To pass to the second stage, it is necessary to successfully complete the first stage of at least three years of study [8]. The degree awarded after the first stage must be in demand in the European labor market as a relevant qualification. The second stage, as in most European countries, should lead to a master's degree and/or a doctorate;
- Introduction of the ECTS-type credit system - the European system of redistribution of labor test units as a suitable means of supporting large-scale mobility of students. Loans may be taken in education other than higher education, including lifelong learning if recognized by the relevant universities;
- promoting mobility by removing barriers to effective free movement, focusing on: providing students with access to educational and practical training opportunities, as well as relevant services; teachers, researchers and administrative staff should be recognized and given credits for the time spent on research, teaching and practice in the European territory, without contradicting their rights established by law;
- to support the European cooperation on ensuring the quality of education in order to develop comparable criteria and methodologies [9].
- promotion of European ideas needed in higher education, especially in curriculum development, inter-institutional cooperation, mobility schemes, joint study programs, practical training and conduct of scientific research .

A comparative analysis of higher education systems shows that only a few countries have historically developed a two-level structure of higher education, where the first level ends with a Bachelor's degree, and it is completed in the second-level program (Master's) provides direct learning opportunities. The duration of the 1st and 2nd stages, as well as the name of the diplomas, differ in different countries and do not correspond to the recommendations of the Bologna Declaration. Usually, such two stages of higher education are developed in Anglo-Saxon countries - Ireland, Great Britain, Malta, as well as Greece, France, Portugal, Iceland, Cyprus in some specialties [10].

In Denmark and Finland, this structure was introduced in the 80s of the XX century, but in the 2002-2003 academic year, it applied only to some specialties. The most serious reorganization of higher education in accordance with the perspectives of the Bologna process is being carried out in Germany. In this country, since 1998, a new system of bachelor's and master's diplomas has been introduced in various educational institutions - universities, technological higher education



institutions, higher educational institutions, music and art educational institutions, and universities with developed applied sciences.

Slovenia has had a two-tier structure since the 1960s, but it differs significantly from the structure proposed in the Bologna Declaration, and its adaptation to new requirements is a future prospect [11].

Most Eastern European countries (Bulgaria, Czech Republic, Lithuania, Latvia, Poland, Slovakia) created a two-tier structure of higher education during the reforms of the 1990s after the fall of communism. Currently, this structure is being improved and expanded.

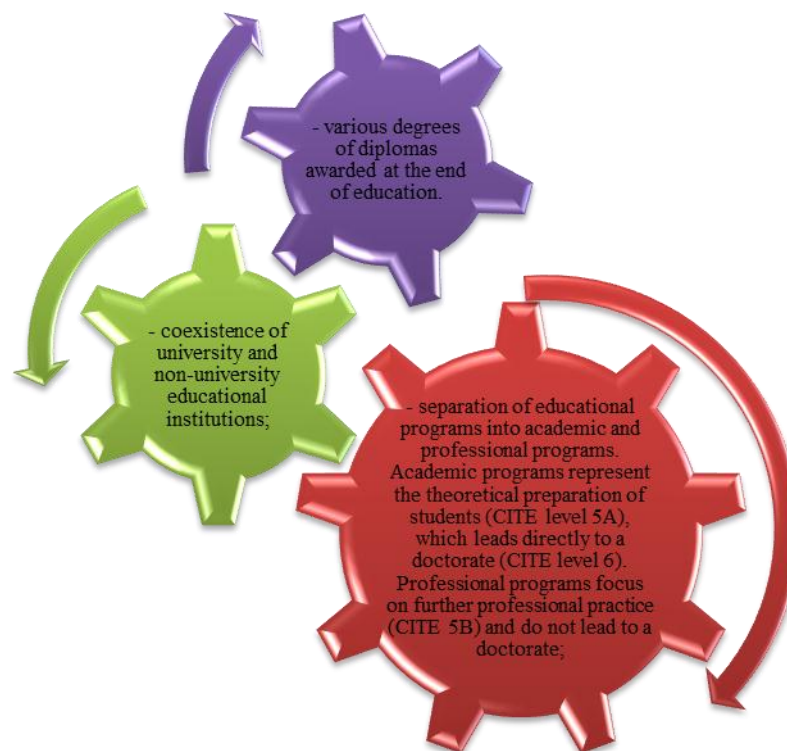


Figure 2. Scheme of general characteristics of the development of higher education in European countries

It should be noted that except for the Anglo-Saxon countries, Denmark, Finland and the Czech Republic in the future, the structure of the organization of higher education in the form of two levels (bachelor's, master's) gradually covers all directions, one level of education (5-6 years) and ends with a master's degree, with the exception of medicine and related specialties.

Comparative studies show that the development of higher education in European countries is characterized by common features:

Organization of higher education in this way led to changes and merger of university and non-university educational institutions. For example, in Greece, Finland, Norway, Malta, training at the level of higher education (CITE 5A) is recognized, although it is not organized at a university.

It should be noted that in most countries, the two-level education structure is mainly organized according to academic (theoretical) programs (CITE 5A). Preparation for bachelor's and master's degrees is carried out both by universities and other educational institutions.



Nevertheless, in some countries (Estonia, Cyprus, Poland, Slovenia) this structure is organized for two directions - academic and professional (CITE 5A and 5B). There are bachelor's and master's degrees in academic and professional fields. In Cyprus and Slovenia, students with a professional bachelor's degree can directly enter the second stage - a professional master's degree (CITE 5B). In Estonia and Poland, Master's degrees are always theoretical (CITE 5A), even though the first degree is a vocational degree (CITE 5B).

Modern studies show that not all countries actively participate in the Bologna process. For example, in Belgium and Luxembourg, measures to develop two-level personnel training in higher education are not being taken. In Belgium and Spain, a law on the development of higher education has been adopted, but it has not yet been implemented [12].

In Greece, Finland, Norway, Malta, there is mainly a single-level - theoretical bachelor's - CITE 5A education. For example, in Norway and Estonia, there is a tendency to create a master's degree in the adult education system. In Finland, this applies to polytechnic education. In such cases, individuals with a bachelor's degree and 1 to 3 years of professional experience can receive such training.

In the higher education system of a number of European countries, there are master's and master's qualifications corresponding to various educational programs. Paying attention to these differences and bearing in mind that the qualification of the second stage of higher education used in the context of the Bologna process corresponds primarily to the qualification indicated by the term "master" in European languages, that is, when translated into Russian, "master" must be kept. This qualification may correspond in form and content to the qualification of a specialist with a diploma in Uzbekistan, while the master's degree (scientifically oriented qualification) available in the Republic of Uzbekistan is significantly different from it. A master's program can be for two years only in subjects that students begin studying as part of a formal higher education course, such as philosophy [13].

The real situation today is that it is difficult to compare the qualifications obtained by OTM graduates in different countries. Thus, a graduate of a university or college, after completing the relevant training course, receives a "bachelor's" qualification, and then receives a "master's" qualification after taking an additional 1-2-year course” do not understand: is it a bachelor's analogue or a master's analogue? In Sweden, an Uzbek specialist diploma is equivalent to a master's degree, while in most Scandinavian countries it is recognized as equivalent to a bachelor's degree. Sometimes there is even a doubt that a specialist with a diploma is a person with a completed higher education [14, 15].

Similarly, in countries where the tradition of awarding bachelor's and master's degrees does not exist, or where this tradition is new—as in Uzbekistan—employers and the public know very little about the specifics of bachelor's and master's education. imaginative. Questions arise about whether a bachelor is a person with completed higher education [16, 17].

For example, in France, a bachelor is a person with a secondary education, and in modern France, the analogue of a bachelor's degree is a license (that is, it corresponds to a French, English, Russian or Uzbek bachelor). In order to adequately perceive information about the level and type of education, it is necessary to know this system of terminological correspondences. A detailed study of the newly introduced credit system is most important for our research.

Credit and performance

Credit (ECTS - credit) is literally a test, a certificate of completion of any course of an educational institution.



A credit or test unit is a unified system of measuring the amount of educational work.

In each country, units have been developed to measure student workload (weeks, hours, credits, test units). It is known that currently 3 most important credit systems have been formed:

US Credit System, British Credit Accumulation and Transfer Scheme (CATS) and European Credit Transfer System (ECTS).

The two main forms of using loans are collection and transfer of loans.

Transfer of credits. In 1997, the European Commission developed the ECTS credit system to measure and compare learning outcomes when a student moves from one university to another, from one study program to another. Within the framework of the Bologna process, ECTS facilitates the transition from one institution to another, which is understandable by all participants of the process, that is, to facilitate mobility, to increase the freedom to choose the educational path for European citizens more effectively, as well as to increase the competitiveness of the European higher education system. is the recommended system for Since most countries have changed their higher education legislation since the Bologna Declaration, the ECTS system or ECTS-compatible systems have often become central to national reforms. Austria, France, Germany, Italy, Hungary, Slovakia and other countries implemented the mandatory introduction of the ECTS system at the same time as introducing two levels into the education system. In 2002, almost two-thirds of education ministries in European countries stated that their HEIs use ECTS as a credit transfer system. The use of ECTS for credit transfer in 2002 was highest in Greece and Sweden (80%), Finland and Poland (81.5%), Austria and Belgium (84%), Romania (87%), Norway (90%), Ireland and Common in Denmark (93%).

Credit collection. The idea of using ECTS as an accrual system not only for those going to study abroad (mobile students), but also for all students, was referred to in the Bologna Declaration for the use of credits in the context of lifelong learning and approved in accordance with the Prague Communiqué. The main principle is to fill the educational load taking into account the specific features of the stage, the content of the program and, as a result, control the educational results within this level. This is in no way alien to the original idea of ECTS as a credit transfer system.

Conclusion

In conclusion, it should be said that modernizing the education system of our country by researching the higher education system of developed countries, and improving the assessment system for the formation of knowledge, skills and qualifications of future engineers with innovative approaches is the guarantee of the quality of Uzbekistan's education. The literature analyzed above shows that without bringing education to the level of quality, we cannot join the ranks of developed countries, therefore, the transfer of the system of education of the young generation to modern education is the basis of today and the rest of the future.

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