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SOME ASPECTS OF INTERNATIONALIZATION OF HIGHER EDUCATION (illustrated on the example of FRG [Federal Republic of Germany] and the Republic of Turkey)

Abstract. The article is devoted to a comparative analysis of the development of international cooperation in the area of higher education carried out by German and Turkish universities, its strategic planning, measures for its implementation and the results achieved. Based on the experience of two countries in organizing cooperation in education at all levels of its acceptance, the article presents the existing aspects of the internationalization of education. It is noted that the internationalization of higher education through the implementation of joint educational projects contributes not only to improving the quality of education, but also to establishing social and cultural, economic and business contracts between countries, and assists in maintaining and strengthening of interactions between the peoples of the world.

The purpose of this paper abstract is to study the multidimensionality of integration processes in higher education. The growing interconnection and interdependence of the countries and peoples of the modern world, the internationalization of education, science, economics and culture, the exacerbation of global problems that cannot be resolved without going beyond the national framework and state borders - all this makes it extremely important to study world experience in various areas of public life and scientific knowledge areas.

Keywords: internationalization, higher education, globalization, mobility, dual education.

Introduction. In the modern world, close interaction between science, education and production is becoming a strategic goal and necessary condition for the innovative development of the economy and, thus, increasing the competitiveness of the state.

One of the most important trends in the development of modern higher education throughout the world is the process of internationalization, which is determined by the factors of economic and social and political rapprochement between countries and implies the necessity to ensure compatibility of education, the formation of a common educational space. Increasing global trends of internationalization of education inevitably lead to a revision of educational paradigms with the prospect of creating a single open educational space.

Methods. The methodological basis of the research was philosophical concepts in the area of education; modern methodological developments on the history of education; works on the methodology of comparative pedagogical research. The theoretical basis of the research included scientific papers on the problems of modern development of higher education; researches on the development of higher vocational education in Turkey and Germany.

Actually, education is becoming open and accessible in the country and international space, a global information and educational environment is being formed, education is acquiring a transboundary character. Under these circumstances, the transition to the model of internationalization of higher education is becoming a natural process. It seems necessary to consider the emergence of the concept of internationa-

lization of higher education, to analyze the existing definitions of this process and to identify a particular definition.

Researches in the area of studying the internationalization process began in the 1970 s. One of the first researchers in the area of internationalization of higher education is M. Harari, who classifies internationalization as "numerous activities, programs and services, in the framework of international research, international exchanges in the area of education and technical cooperation" [1]. This definition focuses on three components: "the international aspect of academic programme, international mobility of scientists and students, and international programs of technical cooperation and mutual assistance". Later, in the 1990s professor of the University of Toronto (Canada) J. Knight formulates the concept of the internationalization process "as a process of integrating the international aspect into the teaching and research activities of a university or college to improve their quality [2]. J. Knight describes globalization as a process of technology, economy, knowledge, people, values, ideas beyond the state border and notes that the impact of globalization on each country is different and depends on the peculiarities of historical development, traditions, culture, priorities of this nation, and internationalization in higher education, this is one of the ways in which a country responds to globalization while maintaining respect for the uniqueness of its own people.

One of the outstanding scientists in the area of education and internationalization, Hans de Wit, a professor in the area of internationalization of higher education, defines it with the help of all existing definitions and describes it as "a complex of processes whose combined effect is aimed at strengthening of the international aspect in higher education". Wit claims that many factors have always influenced the process: "Several factors such as the fall of "the iron curtain", the process of European states uniting, and the development of globalization of European economies and societies have played a role in this transition from scattered" international education " to a more integral, "comprehensive" concept of internationalization "[3].

Other foreign researchers point out such factors of internationalization as globalization, academic mobility, the international component of the content of education. In some papers of foreign authors, the concepts of internationalization and globalization are combined, because globalization is a factor influencing the process of internationalization [4].

The internationalization of higher education is the integration of the university into the external educational market, including with the aim of recruitment foreign students and foreign scientists and teachers. The phenomenon of internationalization in education has historical premises that determine the transformation in the process of university management.

In 1999, the Bologna Process starts in Europe, aimed at developing the internationalization of higher education through the creation of united qualifications, transparent, comparable and, consequently, more competitive learning outcomes. Competitiveness becomes the motivation for the development of the internationalization of higher education. Internationalization becomes such a phenomenon of international relations, which has an independent value and in this capacity has an impact on the activities of states in various areas. In this concept, internationalization can be viewed as a stage of globalization within a state. The important factor in the internationalization of higher education is the language in which learning is conducted.

In connection with the accelerated pace of world development, there is a necessity for comparative researches in all areas related to the modernization of education and changes in society as a whole. In recent decades, the world has noted a significant increase in interest and expansion of the geography of comparative studies, both in theoretical and in practice-oriented aspect. In many aspects, increased attention to comparative studies is caused by the factors of globalization and the development of information technologies, which require both theoretical understanding and the research of the possibilities and methods of practical adaptation of educational systems to new conditions [5].

Taking into account the state and features of approaches in the area of comparative studies, we focused on studying the experience of rapidly developing Turkey and Germany.

Results. ***Federal Republic of Germany.*** Today, Germany is the leading country in the area of internationalization of higher education. Every tenth student in Germany is a foreigner, and every twentieth is studying abroad. Herein, that ten years ago, Germany lagged far behind its competitors. This success was made possible through a combination of sound state policy in the area of education at the federal and

regional level, aimed not only at improving the quality and accessibility of higher education, but also at its international attractiveness, and at developing and implementing internationalization strategies by German universities themselves. The main organizations, responsible for the internationalization of science and education in Germany are the Conference of University Rectors, the German Research Society, the Alexander von Humboldt Foundation and the German Academic Exchange Service.

It should be noted that the process of internationalization in Germany is developing very dynamically, which is confirmed by the data of the British Council research, during which Strategy 2020 of the German Academic Exchange Service (Strategy DAAD 2020) was recognized as the most successful in recruitment of international students and internationalization. In this research, data from 26 countries, including Kazakhstan, were used and evaluated in three categories, which received high marks for the policy of internationalization of higher education [6].

Germany has long been known as a center for the development of science and culture. The first university in medieval Europe appeared in Germany. The basic principle of higher education in Germany is the principle built on the concept of W. Humboldt: the interconnections of the educational process and academic research, which is important for the Kazakh system of higher education. Due to their comprehensive support, German universities have always enjoyed success among students in most countries. In 2012, the countries participating in the Bologna process signed the Mobility Development Strategy, which identified common goals and directions for activities of individual universities, among which it should be noted - the development of a system for receiving and integrating foreign students and visiting scientists carried out in accordance with the National Code of Teaching students in German universities [7] and the European Charter for Researchers and the Code on the Rules for Hiring Researchers [8], increasing foreign academic mobility and German students and teachers, increasing the attractiveness of German universities as a place of education and science, inviting talented young scientists from other countries to develop scientific cooperation, exchange experience, increase motivation to study at foreign universities with German students, etc.

In Germany, a two-tier system of selection of international students is formed, characteristic for many modern Western countries. The first level covers the scope of scientific and educational policy, the second - refers to the sphere of immigration policy. At the first level, the main objectives of the state policy are promotion of the international activities of higher education institutions, strengthening of the processes of internationalization of higher education and to strengthen the image of Germany as a leading educational and scientific center. At the second level, conditions are created for the integration of foreign students after graduation and their successful entry into the labor market. In 2005, the country carried out a reform of immigration legislation, which established more liberal rules for the entry and stay of foreign students from the third countries.

Today in Germany there are over 340 higher educational institutions, where more than 1 million 800 thousand students are studying. According to the report “Wissenschaft weltoffen” (“Science opened to the world”), in 2015, 321,000 foreign students attended German universities and by 2020 it is predicted that this number will increase to 350,000 people [9]. According to the report of 2016, the Minister of Education and Research, together with DAAD and the German Center for Research in Science and Higher Education, in 2014, in German universities and Scientific and Research Institutes taught, more than 85 thousand foreign scientists were engaged in research work, 43 thousand of German scientists worked abroad [10].

The mandatory document for admission to any university in Germany is a Certificate of maturity - "permission to study" - "Hochschulzugangsberechtigung". Depending on the type of Certificate of maturity, German official statistics and German law distinguish two categories of foreign students: Bildungsinländer and Bildungsinländer and Bildungsaländer. The category “Bildungsinländer” includes international students, enrolled in a German university with a Certificate of maturity, obtained after graduating from a German school in Germany or abroad. The Certificate of maturity of the German school, obtained abroad, must be equivalent to the German Certificate of completion of secondary education, that is, in accordance with the German law on education, it must confirm 13 years of secondary education. The group of foreign students “Bildungsausländer” includes foreign citizens who have received the Certificate of maturity abroad, not equivalent to the German HZB.

One of the forms of international educational cooperation at the end of the XX century was the opening of bi-national universities abroad on the basis of intergovernmental agreements and treaties. The specific feature of the activities of such universities are joint diplomas, integrated courses.

Germany is one of the first countries to use the principles of the dual education system. The educational process is carried out by synthesizing of production as an intern and studying the theoretical part in an educational institution, which leads to the effectiveness and efficiency of using the knowledge and skills gained. At the same time, the training of specialists at various levels of the profile is based on the demands and requirements of the personnel market, which makes it possible to ensure professional mobility and competitiveness. The system is funded by the state and enterprises. The competence of the state includes training at the enterprise, and the competence of the region includes training in a professional university.

Consequently, in recent years Germany has accumulated serious experience in the area of internationalization of higher education, as evidenced by the significant legal and regulatory framework, regulating this process. The analysis of the considered German initiatives to recruit foreign students shows that they are important for German society. It is commonly agreed that their presence contributes to the international exchange of knowledge and intercultural competences, therefore, improves the quality of German education. Foreign graduates are even more important as highly qualified specialists who speak German language, know the culture and methods of work in Germany, have skills that can significantly accelerate their social and economic integration into German society.

The Republic of Turkey. Particular states, due to their historical, economic, and cultural characteristics, understand internationalization in a different way. For Asian states, internationalization derives from the strategic necessity for radical changes and reforms aimed at "catching up" with the West; accordingly, they are seeking to expand the international student population, increase international activity and use English more frequently. This is typical for Turkey due to the historically established orientation towards the Europeanization of the country. Over time, the internationalization of education as an active and effective international cooperation for the purpose of mutual enrichment and exchange of experience in the area of education has become part of the development strategy of this state.

Today, Turkey, having achieved some success in the development of higher education, participates in the creation of a European higher education area on equal terms with other countries and, thus, is seeking to move to a higher level of development in order to adequately respond to the challenges of time. The growing and diversifying demand for higher education accessibility, in new areas of study and interdisciplinary research, new training requirements, the accelerated development of modern information and communication technologies determine the innovative nature of the educational and scientific path of Turkey. In Turkish system of higher education, academic mobility is carried out in the context of the free movement of students, researchers and teachers in the framework of cooperation agreements, study abroad and circulation of brain resources.

The international aspects of mobility and internationalization in the higher education system are determined by Turkey's policy in accordance with the national social and economic and historical context, capabilities, resources, priorities and implemented on the basis of consultations of the Higher Education Council and the Parliament of the country. The analysis of regulatory documents in the area of higher education shows that all initiatives of state universities regarding the expansion of mobility at the national and institutional levels are implemented under the supervision of the Council in order to promote cooperation and coherence between foreign and Turkish higher education institutions.

After the signing of the Bologna Declaration in Turkey, the growth of academic and scientific mobility and its improvement is constantly observed. Turkish universities have adopted readily, implemented and use positively European mobility schemes and tools, such as ECTS, the Lisbon Convention, the Diploma Supplement, the NARIC and ENIC networks. The particular importance is the participation of Turkey in the EU -SOCRATES program, aimed at supporting European cooperation in eight areas of education, from pre-university to the highest level, from new technologies to adult education.

Turkey also implements bilateral exchange programs for students and teachers together with European countries and the United States, the CIS countries, and promotes international joint programs. In 2003, an integrated program "Double degree diploma of joint degrees SUNY-YOK" was launched between the State University of New York (SUNY) and the Turkish Council of Higher Education (in Turkish YOK) at the bachelor's level [11].

The expansion of academic mobility creates favorable conditions for the cooperation of Turkish scientists with their European colleagues, conducting research and internships in the specialty abroad. 46 Turkish universities are members of the Association of European Universities (EUA), and 56 are members of the International Association of Universities (IUA). Cooperation with European universities contributes to the globalization of science in Turkey, as well as the implementation of joint research and dissemination of their results. The country has become a full member of the Sixth Framework Program of the European Union, which unites the efforts of not only universities, but also private and public research centers, representatives of large and medium-sized businesses and other participants in the research process, thereby contributing to the creation of united European scientific space [12].

The Council of Turkey for Scientific and Technical Research (TUBITAK) and the Council of Turkey for Research in Social Sciences (TUBA), Turkish Academy of Sciences, are active in developing scientific exchange programs, organizing international scientific conferences, scientific publications in international publications. Under these circumstances, special attention is paid to the support and promotion of young scientists who have completed and already completed graduate school and who are at the beginning of their career as a scientist. Graduate students at Turkish universities receive financial assistance to conduct the part of their research and post-doctoral studies at foreign universities as part of the expansion of the country's research potential [13].

In Turkey, there are programs for awarding public and private scholarships to graduate students who obtain master's and doctoral degrees at foreign universities. The government support program covers students at state universities only; private universities do not participate in mobility programs. Turkish government provides similar support to foreign students studying at Turkish universities. Today there are about 15,000 of them from 115 countries of the world, but mainly from the CIS countries, in particular, Kazakhstan, Arab countries.

The intensification of mobility in the Central Asian region is due to Turkey's considerable attention to the international geopolitical trends of the 20th century, especially the disintegration of the Soviet cartel, and Turkey's geographical location at the junction of Turkic and post-Soviet regions and Eastern part of Europe. Due to active collaboration in the early 1990s in the area of higher education with the Turkic groups and the former Soviet republics, Turkey has become a kind of regional "center" that welcomes students and academic figures from these countries. The similarity of languages stimulates student exchange.

The analysis of foreign literature, analytical documents and materials in the area of internationalization and academic mobility shows that today Turkish universities are actively expanding their international influence, developing new forms of international cooperation for the purpose of mutual enrichment and exchange of experience in the area of education and science. All this contributes to the globalization of science and education in Turkey and the creation of united European educational space. Being interested, on the one hand, in preserving its own national and cultural identity, and on the other hand, in making optimal use of the experience of European countries in modernizing higher education, Turkey has gained experience in solving problems related to the general context, which has great interest for our country.

The formulation and research of the problem of the development of modern higher education in Turkey is determined by the actual continuity and relevance of studying and understanding foreign experience in defining strategies that the domestic higher education school faces in processes similar in its orientation and content.

Conclusion. Consequently, the research of the experience of Turkish and German higher education led to the identification of constructive ideas and strategies, the inclusion of which acquires special meaning and expediency in the process of reforming domestic Kazakhstani education in the context of European integration and interaction with science and industry.

In the context of united educational space, international cooperation changes its forms and types of activity, accumulating potential for solving tasks: achieving a level of higher education that would meet the needs of a modern international society; balancing the level of national educational systems; ensuring mutual understanding between nations. The 21st century is not accidentally called the century of education. In the modern world, that needs the harmonizing of human relations with everything that surrounds him, it is education that allows you to develop a new outlook on life, namely, education can become a unique global value system recognized in any part of the Earth. And it is education that becomes the

driving force that brings together representatives of different countries and continents in the preservation of the planet and human civilization [14].

Based on the above approaches in the area of comparative studies, we did not aim to identify specific solutions or models that should be adapted to Kazakhstan. We also agree with the point of view expressed by many scientists that the problem of taking over foreign experience is a special subject of research and requires different approaches, methodology, tools and research methods. We set ourselves the task of identifying, describing, generalizing knowledge that is related to the characteristics of the essence, the features of the development strategies of the education system of both countries, their dependence on the context in which each of the systems functions and develops; search for general patterns in the choice of solutions and development models for Kazakhstan.

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ЖОҒАРЫ БІЛІМДІ ИНТЕРНАЦИОНАЛДАНДЫРУДЫҢ КЕЙБІР АСПЕКТІЛЕРІ (ГФР мен Түрік Республикасы мысалында)

Аннотация. Мақала неміс және түрік жоғары білім оқу орындарының халықаралық ынтымақтастықты дамытудағы стратегиялық жоспарлауымен жүзеге асырушараларына, сондай-ақ қол жеткізілген нәтижелеріне салыстырмалы талдау жүргізуг еарналған. Мақалада білім берудің интернационалдандыруа спектілері, екі елдің барлық білім беру деңгейінде жинақталған ынтымақтастық орнықтыру тәжірибелеріне сүйеніп қарастырылған

Бірлескен білім беру жобаларын іске асыру арқылы жоғары білім беруді интернационалдандыру білім беру сапасын жақсартуға ғана емес, сонымен қатар елдер арасындағы мәдени-әлеуметтік, экономикалық және іскерлік байланыстарды орнатуға, әлем халықтарының өзара байланысын сақтауға және нығайтуға көмектеседі. Бұл жұмыстың мақсаты жоғары білім берудегі интеграциялық процестердің көп өлшемділігін зерттеу болып табылады. Қазіргі таңда халықаралық байланыстардың дамуы, ғылым, экономика және мәдениет салаларының интернационалдануы, шешілмейтін жаһандық проблемалардың күшеюі – әлемдік тәжірибені зерттеудің маңыздылығын тағы бір мәрте дәлелдейді.

Түйін сөздер: интернационализация, жоғарғы білім, жахандану, мобильділік, дуалды білім.

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НЕКОТОРЫЕ АСПЕКТЫ ИНТЕРНАЦИОНАЛИЗАЦИИ ВЫСШЕГО ОБРАЗОВАНИЯ (на примере ФРГ и Турецкой Республики)

Аннотация. Статья посвящена сопоставительному анализу процесса развития международного сотрудничества в сфере высшего образования, осуществляемого немецкими и турецкими вузами, его стратегическому планированию, мерам по его осуществлению и достигнутым результатам. На основе опыта двух стран по организации сотрудничества в образовании на всех уровнях его получения, в статье представлены существующие аспекты интернационализации образования. Отмечено, что интернационализация высшего образования через реализацию совместных образовательных проектов содействует не только повышению качества обучения, но и установлению социально-культурных, экономических и деловых связей между странами, и оказывает содействие сохранению и укреплению взаимодействий между народами мира.

Целью данной работы является исследование многоаспектности интеграционных процессов в высшем образовании. Растущая взаимосвязь и взаимозависимость стран и народов современного мира, интернационализация образования, науки, экономики и культуры, обострение глобальных проблем, решение которых невозможно без выхода за национальные рамки и государственные границы – все это обусловливает первостепенную важность изучения мирового опыта в разных сферах общественной жизни и областях научного знания.

Ключевые слова: интернационализация, высшее образование, глобализация, мобильность, дуальное образование.

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REFERENCES

[1] Internacionalizacija vysshego obrazovanija v stranah OJESR: Prilozhenie/Centr OJESR // VShJe. M. 2005. P. 8-13 (in Rus.).

[2] Knight J. Internationalization Remodeled: Definition, Approaches, and Rationales // Journal of Studies in International Education. 2004. P. 8-20 (in Eng.).

[3] Wit Hans de Globalisation and Internationalisation of Higher Education [introduction to online monograph] // Revista de Universidad y Sociedad del Conocimiento (RUSC). 2011. Vol. 8, N 2. P. 241-248 (in Eng.).

[4] Pevzner M.N., Sherajzina R.M., Petrjakov P.A. Strategii upravlenija mnogoobraziem v uslovijah globalizacii i internacionalizacii obrazovanija // V sbornike: Tradicii i innovacii v obrazovanii. Sankt-Peterburg, 2017. P. 126-135 (in Rus.).

[5] Tokareva E.S. Process razvitija internacionalizacii v oblasti obrazovanija na gosudarstvennom urovne // Pravo i obshhestvo v uslovijah globalizacii: perspektivy razvitija: sbornik nauchnyh trudov / Pod red. V.V. Beher, N.N. Lajchenkovoj. Saratov, 2017. Vyp. 5. P. 13-19 (in Rus.).

[6] Strategie der Wissenschaftsminister/innen von Bund und Ländern für die Internationalisierung der Hochschulen in Deutschland (Beschluss der 18. Sitzung der Gemeinsamen Wissenschaftskonferenz am 12. April 2013 in Berlin) [online]. 11 p.

[7] Nationaler Kodex für das Ausländerstudium an deutschen Hochschulen (2016) [online]. 4 p.

[8] Europäische Charta für Forscher: Verhaltenskodex für die Einstellung von Forschern. Brussels, 2005. 65 p.

[9] Burkhart S., Chehab van den Assem N., Grützmacher J., Heublein U. Wissenschaft weltoffen 2016: Daten und Fakten zur Internationalität von Studium und Forschung in Deutschland. Facts and Figures on the International Nature of Studies and Research in Germany. Fokus: Internationale Mobilität von Wissenschaftlern International Mobility of Academics and Researchers / S. Burkhart, N. Chehab-van den Assem, J. Grützmacher, U. Heublein, S. Kammüller, J. Kercher. Bielefeld, 2016.

[10] Kercher J. Deutschland zieht immer mehr ausländische Wissenschaftler an/J. Kercher.-Режим доступа: http://www.dzhw.Eu/ aktuell/presse/material/ pressemitteilungen/

[11] Dual-Degree K. Cooperation between the Turkish University System and the State University of New York: A Model for International Student Mobility in the Global Knowledge Economy/Paper presented at the Association International Education Administrators (AIEA) Annual Conference, February 1619, Washington, DC, 2005 (in Eng.).

[12] Kirecçi M. The internationalization of Higher Education in Turkey: Creating an Index // Education and Science. 2016. Vol. 41, N 187. P. 1-28. ISSN 1300-1337 (in Eng.).

[13] Şener G. Türkiye'de Yaşanan Eğitim Sorunlarına Güncel Bir Bakış // Milli eğitim dergisi. 2018. 47 (218). P. 187-200 (in Eng.).

[14] De Wit H. Quality Assurance and Internationalization. Trends, challenges and opportunities // Proceedings of INQAAHE conference (Chicago, U.S., 30 March – 3 April 2015). Chicago, 2015. P. 3-30 (in Eng.).

[15] Abdul Aziz Farid Saymeh, Harbi Ariqat, Saeid Aqel. Higher Education and Scientific Research of Third World Countries Need Professional Support: Case of Jordan // Education Journal. 2014. Vol. 3, N 4. P. 245-255. doi:10.11648/j.edu.20140304.17 ISSN: 2327-2600 (Print). ISSN 2327-2619 (Online) (in Eng.).

[16] Toybazarova N.A., Nazarova G. The modernization of education in Kazakhstan: trends, perspective and problems // Bulletin of National academy of sciences of the Republic of Kazakhstan. 2018. Vol. 6, N 376. P. 104-114. ISSN 1991-3494. https://doi.org/10.32014/2018.2518-1467.33 (in Eng.).

[17] Tlessova E., Khoich A., Kurash N. Scientific innovation potential of the Republic of Kazakhstan and its perspectives // News of the National academy of sciences of the Republic of Kazakhstan. Series of social and human sciences. 2018. Vol. 5, N 321. P. 89-94. ISSN 2224-5294. https://doi.org/10.32014/2018. 2224-5294.16 (in Eng.).

[18] Nailya K. Nurlanova, Anel A. Kireyeva, Rashid M. Ruzanov // Journal of Asian Finance, Economics and Business. 2017. Vol. 4, N 2. P. 37-44 37. Print ISSN 2288-4637. Online ISSN 2288-4645. Evaluation of Economic Potential and Level of Concentration of the Regions of Kazakhstan Received: March 8, 2017. Revised: April 25, 2017. Accepted: May 2, 2017. https://doi:10.13106/jafeb.2017.vol4.no2.37

[19] Sagiyeva R., Zhuparova A., Ruzanov R., Doszhan R., Askerov A. 2018. Intellectual input of development by knowledge-based economy: problems of measuring in countries with developing markets // Entrepreneurship and Sustainability. Issues 6(2). P. 711-728. https://doi:org/10.9770/jesi.2018.6.2(17)

[20] Kosherbayeva N.A., Abdreimova K., Kosherba G., Anuarbek A. Synthesis of achievements of world mankind in humanity pedagogy // Procedia - Social and Behavioral Sciences. 2013. 89. P. 886-889. https://doi:org/10.1016/j.sbspro.2013.08.950

[21] Kassymova G.K., Arpentieva M.R., Kosherbayeva A.N., Triyono M.B., Sangilbayev S.O., Kenzhaliyev B.K. (2019). Science, education & cognitive competence based on e-learning // Bulletin of the National academy of sciences of the Republic of Kazakhstan. 2019. Vol. 1. P. 269-278. https://doi.org/10.32014/2019.2518-1467.31

[22] Alibekova G., Panzabekova A., Satpayeva Z., Abilkayir N. // IOP Conference Series: Earth and Environmental Science IOP Conf. Series: Earth and Environmental Science. 2018. 177. 012010 (Web of Science Conference Proceedings Index и Scopus). https://doi:10.1088/1755-1315/177/1/012010