ADMINISTRATIVE AND LEGAL BASIS OF IMPLEMENTATION OF MODERN SYSTEM OF INFORMATIZATION OF EDUCATION IN UKRAINE

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Abstarct. The article analyzes development tendencies, problems of informatization of education and possible ways of their solution. The analysis of the informatization of education in the developed countries of the world and the possibility of relying on their experience is carried out. It is emphasized that informatization is an important factor in improving the quality, efficiency and accessibility of education for all segments of the population of all ages. The ways of improving the administrative and legal principles of reforming education in Ukraine are considered.

Keywords: *informatization of education, information and communication technologies, open education, electronic distance education, computerization of education.*

Introduction

Informatization of education is an important means and component of education reforming. The transition of the education system to a qualitatively new level without its informatization is simply impossible. In Ukraine, the level of informatization of society as a whole and education in particular is significantly lower than the level of informatization of the society of other developed countries. There is a need to explore the concept of informatization of education and trends in the development of education in developed countries, the possibility of applying the experience of legal regulation of the introduction of informatization in education.

Every member of society, in terms of cultural, psychological and technological readiness, needs to accumulate a personal educational resource, obtaining certain information benefits and constant open access to educational space.

State of research. Today, domestic scientists are engaged in research on the problems of the establishment and development of the information society in Ukraine, overcoming of digital and cognitive inequality, taking into account the peculiarities of the societies of knowledge and standards of the European space in education. In various historical stages of the development of the Ukrainian state domestic scholars have been engaged in the questions of reforming education in general and its informatization, development of comprehensive model of organizational and legal principles for reforming education in Ukraine:

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A significant contribution to the study of the problem of using e-technologies in education and open education was made by V.Yu. Bykov.

The purpose of the article is to analyze the basic terms such as informatization and informatization of education, investigation of actual problems of introduction of information and communication technologies in the educational process and analysis of the state of use of information and communication technologies in education in developed countries of the world.

Presentation of the main material: The continuous increase of scientific information, the rapid change of engineering and technology, the growth of the social role of the individual and the intellectualization of labor require the continuous development of the individual, which, in turn, requires the modernization of education, bringing it in line with the socio-economic needs of the information society. Means and technologies of education should implement modern teaching methods, with the obligatory use of information and communication technologies (ICT). The development of the information society requires the state to prepare a creative person who can apply the acquired knowledge and ability to work with information resources, skillfully use a large amount of available information and constantly improve their skills with the help of new technologies. The ability to independently acquire knowledge at the present stage of the development of the information society turns into the vital need of every citizen of the modern state.

The education system should ensure the ability of the person to self-education, to form the ability to independently navigate the accumulated experience of mankind, to ensure the acquisition of skills in the use of information and communication technologies to solve the problems, awareness of the possibilities of their use. Informatization and computerization of the educational branch are among the most difficult and most important tasks for the state, since it depends on the quality of the received education and its development.

The Law of Ukraine "On the Basic Principles of the Development of the Information Society in Ukraine for 2007-2015" [1] states that the degree of development of the information society in Ukraine in comparison with world tendencies is insufficient and does not correspond to the potential and capabilities of Ukraine. Among the main strategic goals of the development of the information society in our country, the legislator determines the need to ensure the computer and information literacy of the population through the creation of a system of education focused on the use of the latest ICT in the formation of a fully developed person. One of the leading areas for the development of the Information Society is providing everyone with the opportunity to acquire knowledge, skills and abilities through the use of ICT during education, personal development and professional training. In our opinion, an important element of the information society is the open and free access to education for every person, regardless of age, gender and physical or psychological constraints, at any convenient time.

According to the Law of Ukraine "On the Concept of the National Program of Informatization" [2], the main objective of such a program is to create the necessary conditions for providing citizens and society with timely, accurate and complete information through the widespread use of information technologies. The program establishes one of the main tasks of the creation of a nation-wide network of information support for science and education.

Informatization of education is aimed at the formation and development of the intellectual potential of the nation, the improvement of the forms and content of the educational process, the introduction of computer teaching and testing methods, which will provide the opportunity to solve educational problems at the highest level taking into account world requirements. Among them – the individualization of education, the organization of systematic knowledge control, the ability to take into account the psychophysiological features of each child, etc. The results of informatization of education should be: development of information culture of the person (computer education), improvement of content, methods and means of education to the level of world standards, shortening the term and improving the quality of education and training at all levels of personnel training, integration of educational, research and production activities, improvement of the management of education, staffing of all areas of informatization of Ukraine through specialization and intensification of the training of the relevant specialists.

In our opinion, the informational education of teachers and professors is left out of the attention, and the professors themselves do not understand the necessity of introducing and using modern information technologies in education, although it is thanks to the informatization of education and availability the teacher can easily find any information and have access to the electronic library.

As noted by O.A. Zakharova [3, p. 113], after the establishment of a system of open distance education, a qualitative leap took place that had two main approaches: a methodological approach to teaching methods, and managerial one, which considers serving pupils as consumers. An important principle is the widespread use of methods education activation during intramural studies and in organizing work with electronic learning resources. The activation of self-education and involvement in the educational process of personal and professional experience of students in problem situations will increase the efficiency of education. We believe that distance education not only provides students with the opportunity of self-education at a convenient time, but, taking into account the requirements of the information society for continuous improvement and development, it is possible for persons working with modern ICT and electronic learning tools to be able to receive new one and systematize already received knowledge.

T. Ya. Vdovychyn and A. V Yatsyshyn in their work [4, p. 137] mention Yu.V. Bykov, who notes that the participants of the educational process due to the openness of the learning environment and the availability of free access to educational materials themselves are able to obtain the necessary knowledge and use various information resources and modern information and communication technologies. Information resources include the following: databases and knowledge, computer (multimedia), educational systems, video and audio recordings, electronic libraries, which, together with paper textbooks and methodological materials, form the resource of information for open education. The use of facilities and technologies of the open learning environment is a new stage in the development of network e-distance learning, which determines the formation and implementation in the educational space of a unified scientific, technical and educational policy based on the principles of open education [5].

Creating an effective system of informatization of education requires understanding of the term "informatization" and the study of the concept of education informatization (EI).

We believe that informatization in the broad sense means raising awareness of society as a whole and of each of its members in particular, with the importance of the availability and timeliness of the use of information. The Law of Ukraine "On the National Program of Informatization" [6] stipulates that informatization is a set of interrelated organizational, legal, political, socio-economic, scientific and technical and production processes aimed at creating conditions for meeting the information needs of citizens and society on the basis of creation, development and use of information systems, networks, resources and information technologies, which are based on the use of modern computing and communication technology. The same definition is also given in the Law of Ukraine "On the Concept of the National Program of Informatization" [3].

Valeriy Bykov was engaged in the research of modern means and e-technologies of education, in one of his articles he gives his definition of informatization of education as an "ordered set of interrelated organizational-legal, socio-economic, educational, methodological, scientific-technical, industrial and managerial processes aimed at satisfying the information, computing and telecommunication needs associated with the capabilities of methods and means of information and communication technologies (ICT) of participants of educational process and those, who control and provide this process"[7, p. 360].

Besides, Yu. V. Bykov [8] points out that "informatization of the system of education primarily involves the emergence of new ICT-oriented pedagogical and educational technologies, the newest means of teaching, the creation and use in the pedagogical systems of the modern computer-oriented learning environment, the gradual formation and the development of the computer-technological platform of information educational space, electronic information educational resources (collections of digital educational resources) and network services, which are substantively filling and give procedural support. The nature and pace of informatization of the ES are determined by the most advanced and perspective forms and technologies of organization of education, which, first of all, should include open education, systems of electronic distance education (e-DE), electronic distance learning

technologies (e-DL), based on the principles of open education"[8, p. 14]. "It is precisely the introduction of the principles of open education in the education of Ukraine that accumulates the latest views of scientists and practitioners on the prospective ways of developing education in the information society, foresees the use of the most advanced achievements of psychological and pedagogical science, educational practice and scientific and technological progress, ensures the imitation and reproduction in the education of Ukraine of world tendencies the development of educational systems, determines the integration of the ES of Ukraine into the world educational space"[8, p. 14–15].

The main goal of informatization of education is to train those who are studying, to live actively in the information society, to provide high-quality, accessible and efficient education, to create conditions for the general population to conduct their lifelong learning through the introduction of methods and means of ICT in educational practice and computer-oriented technologies into the educational process.

We support many scholars in the fact that informatization of education is an integral part of the information society and reflects the general tendencies of globalization of world development processes of states. Informatization of education involves the effective use and implementation of information and communication technologies (ICT) in educational and scientific processes with widespread use of electronic resources.

A decade ago, many different computer training programs were created abroad. Publicly available national collections (libraries) of electronic resources are being created in various countries around the world with the support of the state. They are gathered and operate in Scandinavian countries, Southeast Asia, the United Kingdom, France, Poland and the United States. Such collections are created for public funds and grants of non-profit humanitarian funds. Their most important feature is free use and guaranteed quality. In some countries (Norway, Estonia, Holland, France, USA, Ireland) government agencies order the development of fundamentally new electronic resources, which are then centrally distributed in educational institutions [9]. In our opinion, this approach provides an opportunity to make education informatized, therefore it is necessary to study the experience of developed countries.

In Ukrainian schools, the use of foreign electronic resources at the lessons is practically impossible, as software tools developed in other countries do not correspond to the curricula approved by the Ministry of Education and Science of Ukraine. Consequently, the problem of the use of programmed pedagogical means in the educational process of Ukrainian secondary schools should be solved with the help of domestic developments. Also, a huge problem is the lack of understanding of the pedagogical composition of educational institutions about the need to use ICT in the educational process, the changes in educational programs and adapting them to the modern requirements of the information society.

In recent years, many institutions in Ukraine have developed programmatic pedagogical tools for different subjects, but their number is insufficient, they do not come to all schools, or teachers do not know about their availability [9], which is a major disadvantage and a problem to be solved. Unfortunately, today from our state there is no support in the development of the latest pedagogical programs, or the proper legislative regulation of these issues, and the provision of the opportunity for educational institutions to independently develop electronic curricula and make changes to the educational process.

In the article by V.H. Kremen, "Society of Knowledge and Qualitative Education" [10], the author investigates the problems that need to be solved immediately in education in all its manifestations in the process of its reformation and informatization so that education corresponds to the civilizational changes of society and the requirements of the modern state.

First, because the change of ideas, knowledge and technology occurs faster than the change of the human generation, there is a situation where it is impossible to teach a person all the life in a habitual, traditional education, and there is no need to memorize a large amount of information. Therefore, it is necessary to change the functions of the educational process in educational institutions, starting with kindergarten, and pay special attention to schoolchildren. That is, a person must be prepared for the requirements of the

information society from childhood, since at an early age children easily learn a lot of information, but the main thing is to teach the child to use correctly and find information if necessary. Along with basic knowledge it is necessary to teach students and learners to learn new knowledge and information on their own, to learn to study, to develop the need for lifelong learning, so that they can easily adapt to the requirements of modern society. Also important is the function of the educational process – to teach a person to use the knowledge gained in his practical activity. First of all, this is important in a situation where humanity is moving towards a substantially new quality of social development – the society of knowledge, the deciding factor of which will be the Man, able to act on the basis of the knowledge gained and its practical use [10].

This problem requires an immediate solution. Without significant changes in the approach to organizing the learning process, this is simply impossible. The rapid process of informatization of society requires decisive action from the state.

In solving the aforementioned problem, modern information technologies, taking into account almost unlimited possibilities of the Internet, are crucial, and have such peculiar properties:

- the ability to provide infinite amount of information from any field of knowledge;
- free access to information resources at any convenient time and in any place;
- the availability of a large number of special courses in the various disciplines on the Internet, which is constantly increasing and improving;
- an opportunity for every person who is able to use modern information technologies to study at any moments throughout his life, independently choosing the desired branch and trajectory of study, choosing a teacher and the time of conducting classes [10].

Continuous improvement of software and hardware with the obligatory consideration of the achievements of pedagogical and psychological sciences, aimed at simplifying the search for knowledge, its mastering and further practical application is the task of informatization of education in solving the problem stated.

Secondly, the process of globalization is very rapid, and is accompanied by the development of modern information technology, therefore, the sphere of communication, in which the person is located, significantly increases. It receives an unlimited number of informational influences from around the world every day, is forced to enter into relations and contacts with citizens of his country and other countries. Such influences are not only multifaceted, but also often contradictory, counter, which essentially creates difficulties in determining the individual's position. In this connection, the educational process in educational institutions, and, at the same time, the social environment of society as a whole, should be as much as possible oriented towards the formation of a well-developed, self-sufficient person capable of self-education and adaptation to different conditions [10].

To solve the second problem, the immediate formation of a well-developed, self-sufficient person who is able to make the right decisions under the influence of an ever-increasing number of diverse influences on different sides is required, such influences are often debatable and contradictory.

Children who are the most easily exposed to influence, are a special category, therefore it is from childhood that children should be prepared for the modern information world with appropriate skills in the selection and perception of information.

Solving of this problem, in addition to changing the orientation of the educational process, can be carried out by means of information technology. The main task of informatization of education in solving this problem is the development, taking into account the latest achievements of psychological science, of special software dedicated to the formation of personality. It is also important to take into account, during the development of program objects, the factor of the impact of their future use on the formation of personality.

Thirdly, if the development of each individual is the meaning and the main indicator of human progress, taking into account person's abilities, in this case the most urgent is to maximally bring the process of learning and education of each individual child to its essence, abilities and peculiarities, and give a chance to reveal all of their potential and become a person. In this case, the childhood-centeredness principle comes to the fore in the sense of the attention of each child as a person with its essential characteristics. The organization of the

educational process on the principle of childhood-centeredness is the only way to form a human-centered, humane, democratic and efficient modern society and maybe the only way to happiness of every person. The introduction of the principle of childhood-centeredness requires the introduction of changes both to curricula and to the relationship between teacher and student (professor and student). Given the use of the latest information technology, the teacher must be a partner in the student in education and development, the teacher (professor) should be an example, an example for a student [10].

To solve the third problem – the organization of educational process on the basis of childhood center – the main role should be given to information technology. To date, educational computer programs and systems have been created, to a certain extent able to adapt to the student's abilities. It is important for the creation and implementation of such programs to take into account the latest research in pedagogical, psychological and technical sciences.

When solving the third problem it is necessary to take into account the problem of informatization of education, namely the creation of new educational computer systems, together with teachers and psychologists, these programs will give a chance to bring the learning and upbringing of each child to its essence, abilities and features, that is, to consider every child as a person.

One of the main tasks of informatization of education in solving the third problem is the creation of educational computer systems in cooperation with teachers and psychologists, which will enable to bring education and upbringing of each child to its essence, abilities and peculiarities, to consider each child as a person as much as possible.

In our opinion, the need to create educational computer systems for children with special needs requires special attention and more careful treatment by teachers and psychologists. Of course, in such educational systems, the teacher (professor) must first of all be a partner and friend of a pupil (student) in education and development, and in his life should be a model for imitation, because children with special needs have a very weak nervous system and problems with surrounding society.

Fourthly, for the education to fulfill its main task, it is necessary for the state to create as much as possible the initial opportunities for children from different families to receive education and make the first independent steps in their lives [10]. It is important that children with disabilities feel that they are full members of society and have free access to education. Moreover, such children should not feel any difference from other children, but rather be an individual.

The fourth problem lies in the scientific, technical, financial, economic and administrative aspects. But the solution to this problem should be immediate across the country and at all levels of government.

It can be assumed that informatization of education can solve the above-mentioned problems in education, and the creation of an information society, will provide for the renewal of a developed state.

The ability to use modern information technologies is a factor that directly affects the quality of education, therefore, "to provide the starting opportunities for children from different families in education as much as possible " in today's conditions means ensuring equal opportunities for all children to use information technologies and obtain high-quality education. In our opinion, the desire to learn and gain new knowledge is important. This is especially true for general secondary education, which should be received free of charge (at the expense of the state) by all Ukrainian citizens. In the process of formation of a qualitatively new level of education, the Academy of Pedagogical Sciences and the Ministry of Education and Science of Ukraine are tasked with identifying scientifically grounded requirements for the means of informatization, which are necessary and sufficient for the study of educational subjects in the scope provided by the state standards of general education and correspond to the curriculum, and the state needs to provide such facilities for all institutions that give general secondary education in accordance with the only standards [10].

The above examples show that informatization of education is an important means and component of the reformation of education. The transition of the education system to a qualitatively new level without its informatization is simply impossible.

As Ukraine seeks to enter the European educational space, it is necessary to study the

state of informatization of education and use of ICT in the educational process in developed countries of the world.

The Power of the Internet for Learning: Moving from Promise to Practice/ Report of the Web-Based Education Commission tothe President and the Congress of the United States, 2000 [**Chyba! Nenašiel sa žiaden zdroj odkazov.**]. It can be assumed that this document introduces that the new era of education informatization in the United States. Taking into account that from the day of its publication, the informatization of education of the USA is aimed at not filling the educational institutions with hardware, but namely the creation of a network of educational infrastructure. In this case, the idea of learning through interactive communication with the use of network tools comes to the fore. At the same time, the idea of using network educational resources continues to spread. These are mainly university data banks, multimedia resources, lectures by leading lecturers, etc. Of great importance are electronic libraries that are publicly available. It should be noted that in the United States and Canada there have been created systems for supporting multilingual network support for learning tools such as "interactive whiteboards", the most well-known of which are Smart [12] and InterWrite [13], where even teachers can get help with the way of the finished lessons, libraries of software tools and images (according to the accepted terminology of the manufacturers – the gallery).

During the introduction of informatization of education in Ukraine, it is necessary to take into account the US experience, namely to create a network of educational infrastructure. It is important to have access to education not only for pupils (students) but also for teachers (professors) for software that helps them to prepare for classes.

The European Union in the Lisbon Strategy for 2000-2010 defines e-leaming as a tool for building a knowledge-based, dynamic, competitive economy, and creating a lifelong learning environment. To implement this trend, in 2003, the ICT Integration Program for Education 2004-2006 (e-learning program) was adopted, and in 2006, the lifelong learning program (LLP) for 2007 - 2013 pp., in which all the existing programs have been integrated [10].

Great Britain is the country that came out first in Europe to provide teachers with access to information and communication technologies, competencies and motivate them to use ICT in the learning process. The share of such teachers is 60.2%. The next step, which is the profound mastery of the new "electronic" pedagogy, is foreseen by the Government's strategy for the development of education for 2008-2014.

Education at the world-renowned UK educational institutions is available to any student from anywhere in the world, since there are free open e-courses in various professional fields, you can find them at https://ru.coursera.org. That is, countries are doing their utmost to ensure that education is open and accessible not only to citizens of their own country, but also to citizens of other countries.

In France, in 2002, Law No. 142501 was adopted, where the Internet and ICT networks were declared the first vital necessity and the main means for building the future nation. Today in France 99% of the territory has high-speed Internet access. In addition, there was passed the law on the main task of the national education system – the implementation of ICT in all branches of the educational process from kindergarten to adult education.

After analyzing the experience of France, we can say that one of the main problems for Ukraine is the lack of high-speed Internet access in all parts of the country. To solve this problem, the state must create conditions for the widespread development of the Internet.

South Korea is the undisputed world leader in using ICT in education. In January 2004, the Law on the Development of the E-Learning Industry was adopted there, and in this regard, a number of projects in this area, including the "Home Tutor" project, where each student works at home, have been implemented in a consistent manner, which by official data allowed increase the level of knowledge of schoolchildren by 40%. This project was recognized by UNESCO as the best in the world in 2006 [14].

An analysis of the state of informatization of education shows that developed countries of the world use 95% of ICT in all educational institutions, from kindergarten to self-education of adults. With the "Home Tutor" project, which was implemented in South

Korea, you can solve a range of problems, especially for children with special needs.

The investigations of I.V. Aristova and S.I. Zapara have shown that the system of general organizational principles can consist primarily of certain elements that involve the creation of:

1) Provision on the sectoral expert councils of the National Agency for the Quality Assurance of Education;
2) Provision on the Scientific-methodical council and scientific-methodical commissions of the Ministry of Education and Science of Ukraine;
3) Provision on the licensing of educational activities and accreditation of educational programs;
4) methodical recommendations for the development of standards for educational activities and standards of education of a new generation;
5) methodical recommendations for the development of educational and qualification and educational and scientific programs at the level of higher educational institutions [16, p. 146, 147].

The analysis of these elements made it possible to conclude that the criterion for classification of the above organizational principles is related to the creation of the subjects (bodies) of the reformation of education in Ukraine and the means of control (as a function of management) for the implementation of various stages of educational activity. That is, the classification is carried out not on one basis, which, in turn, does not make it possible to clearly present the completeness of the description of the basic organizational principles [15, p. 11].

Conclusions

Informatization of education is an important component of the development of modern society, and the creation of an open learning environment and the formation of its means and technologies is a priority task for the modern state. Pedagogical value of electronic resources is laid in the process of designing and developing electronic teaching aids. Therefore, during it, it is necessary to take into account the pedagogical, psychological and methodological requirements for the creation of high-quality electronic resources that are different from the requirements for printed publications [9].

The questions raised in the article can be solved by forming a comprehensive legal and regulatory framework for reforming education in Ukraine, taking into account the international experience of consolidating the basic requirements (standards) in normative and legal documents of higher legal force. First of all, it is necessary to amend the laws of Ukraine that regulate the issue of education at all levels of the system of education.

References

1. On the Basic Principles of the Information Society Development in Ukraine for 2007-2015 (Pro Osnovni zasady rozvytku informatsiynoho suspilstva v ukraini na 2007-2015 roky): Law of Ukraine dated January 9, 2007 No. 537-V. – Available at: http://zakon.rada.gov.ua/laws/show/537-16 (application date 05.07.2016).
2. On the Concept of the National Program of Informatization (Pro Kontseptsiyu Natsionalnoi prohramy informatyzatsii): Law of Ukraine dated February 4, 1998 No. 75/98-VR. – Available at: http://zakon.rada.gov.ua/laws/show/75/98-%D0%B2%D1%80 (application date 05.07.2016).
3. Zakharova O. A. Open Systems in Distance Education // World of Education – Education in the World, 2011, No. 2. P. 111 – 116. (Zakharova O.A. Otkrytye sistemy v distantsionnom obrazovanii // Mir obrazovaniya – obrazovanie v mire, 2011, No. 2. S. 111 – 116.).
4. Bykov V. Yu. Models of Organizational Systems of Open Education: A Monograph. Kyiv: Atika, 2008, – 684 pp. (Bykov V. Yu. Modeli orhanizatsiynykh system vidkrytoyi osvity: monohraphia. Kyiv: Atika, 2008, – 684 s.).

5. Vdovychyn T. Ya., Yatsyshyn A. V. Application of Open Education Technologies for the Information of the Educational Process // Information Technologies in Education. 2013. No. 16. p. 134 – 140. (Vdovychyn T. Ya., Yatsyshyn A. V. Zastosyvannia tekhnolohiy vidkrytoi osvity dlia informatsii navchalnoho protsesu // Informatsiyni tekhnolohii v osviti 2013. No 16. s. 134 – 140.)
6. On the National Program of Informatization (Pro Natsionalnu prohramu informatyzatsii): Law of Ukraine dated February 4, 1998, No. 74/98-BP. – Available at: http://zakon.rada.gov.ua/laws/show/74/98-%D0%B2%D1%80. (application date 05.07.2016).
7. Bykov V. Yu. Informatization of education // Encyclopedia of education of Ukraine / Acad. ped Sciences of Ukraine; chief ed. V.G. Kremen. Kyiv: Yurinkom Inter, 2008. P. 360 – 362 (Bykov V. Yu. Informatyzatsiya osvity // Entsyklopediya osvity Ukrainy / Akad. ped. nauk Ukrainy; holovnyi red. V. H. Kremen. Kyiv: Yurinkom Inter, 2008. P. 360 – 362)
8. Bykov V. Yu. Innovative tools and perspective directions of informatization of education (Bykov V. Yu. Innovatsiyni instrument ta perspektyvni napriamy informatyzatsii osvity). – Available at: http://lib.iitta.gov.ua/. (application date 05.07.2016).
9. Vember V.P. Informatization of education and problems of introduction of pedagogical software tools in the educational process // Electronic scientific special edition "Information technologies and means of training". 2007, Issue No. 3. – (Vember V.P. Informatyzatsiya osvity ta problem vprovadzhennia pedahohichnykh prohramnykh zasobiv v navchalnyi process // Elektronne naukove vakhove vydannia “Informatsiyni tekhnolohii I zasoby navchannia”. 2007, Vyp. No. 3). – Available at: http://elibrary.kubg.edu.ua/1522/1/V_Vember_ITZN_3_IS.pdf (application date 05.07.2016)
10. Kremen V. H. Society of Knowledge and Qualitative Education // All-Ukrainian public-political weekly "Education". 2007 № 13 – 14. (Kremen V. H. Suspilstvo znan I yakisna osvita // Vseukrainskyi hromadsko-politychnyi tyzhnevyk “Osvita”. 2007. No. 13 – 14).
11. The power of the internet for learning. – Available at: http://www.ed.gov/offices/AC/WBEC/FinalReport/WBECReport.pdf.
12. Information portal "Smart" – Available at: http://www.smart-edu.com.
13. "InterWrite" portal – Available at: http://www.interwrite.ru/.
14. Lapinskyi V.V., Mina A.S., Skrypka K. I. International tendencies in the development of education informatization and enhancement of its quality [Electronic resource] // Information technologies and teaching aids. 2010. № 5 (19) (Lapinskyi V.V., Mina A.S., Skrypka K. I. Mizhnarodni tendentsii rozvytku informatyzatsii osvity ta pidvyshchennia ii yakosti). – Available at: http://www.ime.edu-ua.net/em.html. (application date 24.06.2018).
15. Aristova I. V., Zapara S. I., Organizational and legal principles of reforming higher legal education in conditions of building a knowledge society in Ukraine // Scientific Bulletin of Uzhgorod National University. Series Law, Issue 41, Volume 2, 2016, p. (Aristova I. V., Zapara S. I. Orhanizatsiyno-pravovi zasady formuvannia vyshcoyi yurydychnoyi osvity v umovakh rozbudovy suspilstva znan v Ukaini // Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu. Seriya Pravo, vypusk 41, tom 2, 2016, s. 7-13). – Available at: 7-13: http://www.visnyk-juris.uzhnu.uz.ua/file/No.41/part_2/No.41-2.pdf#page=7 (application date, June 24, 2018).
16. Rashkevych Yu. M. Bologna Process and New Paradigm of Higher Education: [monograph] / Yu.M. Rashkevych – Lviv: View of Lviv Polytechnic, 2014 – 168 pp. (Rashkevych Yu. M. bolonskyi protses ta nova paradyhma vyshchoyi osvity : [monohrafiya] / Yu. M. Rashkevych. – Lviv : Vydavnytstvo Lvivskoyi politekhniky, 2014. – s. 168.).