РОЗДІЛ 1. АКТУАЛЬНІ ТЕНДЕНЦІЇ РОЗВИТКУ ВИЩОЇ ОСВІТИ В УМОВАХ ОНОВЛЕННЯ ОСВІТНІХ СТАНДАРТІВ

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OPEN ACCESS TO SCIENTIFIC INFORMATION AS A FORM OF INFORMATION AND ANALYTICAL SUPPORT OF SCIENTIFIC ACTIVITIES AND COMMUNICATION

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Abstract. The article analyzes the issue of open access to scientific information, which is currently being discussed in national and foreign studies (V. Bykov, N. Veretennikova, L. Holovko, S. Ivanova, N. Kunanets, L. Luparenko, O. Novitsky, O. Spirin, T. Yaroshenko, A. Yatsyshyn, D. Salo, L. Thomas, F. Manista, et al.). The relevance of the issue is associated with the massive publication of scientific research results in the network, the creation of electronic scientific repositories, and building a specific informational scientific environment. Interpretations of the concepts "open access", "open educational resources" (OER), "open knowledge", "electronic open access journal systems" are given. The advantages of using open access to scientific information, features of the "green" and "golden" ways are determined, as well as the electronic platforms that host Ukrainian scientific open access e-journals are analyzed, which constitute the purpose of the article. It is emphasized that the key factors in the emergence of the movement to open access are intensive informatization of society, the emergence and rapid spread of the Internet, as well as the relatively high and ever-increasing price of a subscription to scientific journals. As a result, at the beginning of the 21st century, several international documents appeared, they declared free online access to scientific literature and introduced the concept of open access. Examples of information projects and portals that provide open access to Ukrainian scientific sources: "Scientific periodicals of Ukraine at OJS", "Science of Ukraine: Access to Knowledge" are given. It is noted that the legal framework for open access is provided by Creative Commons licenses. Examples of open electronic journaling systems used in national scientific institutions are given: Open Journal System (OJS), Joomla! The conclusions prove that awareness of the policy of open access to scientific information and the study of the work principles of the open access scientific electronic publications are important parts of the scientific activity of higher education institution teachers, employees of scientific institutions, doctoral students, and post-graduate students.

Key words: open access; open educational resources; open knowledge; open access electronic journal systems; Creative Commons licenses.

Problem setting in general. The important components of scientific work of higher educational institution lecturers, postgraduate students, doctoral students, employees of scientific institutions are presenting the results of their scientific research,

publishing the articles, thesis of scientific reports, conference materials in specialized scientific journals, defining the importance and demand of the results of the scientists' research, indexing their works citation, and scientific communication, etc. The is free access is an effective method of a scientific activity, the analytical support and communication of scientists, the creation of unified informative and analytical environment, which ensures the storage, presenting, and monitoring of various scientific products.

The latest papers and publications on the problem. The issue of open access to scientific information is currently widely discussed in national and foreign scientific research works (V. Bykov, N. Veretennikova, L. Holovko, S. Ivanova, N. Kunanets, L. Luparenko, O. Novitsky, O. Spirin, T. Yaroshenko, A. Yatsishin et al., D. Salo, L. Thomas, F. Manista, et al.) due to the frequent posting scientific research results in the network, the creation of electronic scientific repositories, and building the specific informational scientific environment.

"Open Access" is a free, fast, permanent, and full-text access to real-time scientific and educational materials that is implemented for any user in the global information network. Open access relates primarily to the articles in scientific journals, it provides users with the opportunity to get familiar with the material, download, copy, spread, print, search for specific criteria, or refer to full texts of the articles, scan them, process and index them, send them as metadata, or use for other legitimate purposes. Only mass redistribution for commercial purposes is forbidden (*Open access to scientific information: who, for what and how*, n. d.).

For scientists, who are the employees of higher educational institutions, the term "open educational resources" (OER) is defined in the Declaration of the World Congress of the OER (Paris, 2012) as "materials for teaching, learning and research in any environments, digital or the other one, which are in the public use or were issued under an open license that allows access, use, adaptation, distribution without expense" (Farrow, 2016; Open Educational Resources, n. d.). UNESCO's first Declaration on Open Educational Resources urges governments around the world to promote the use of OERs and publish educational materials in open access. The Second World Congress of Open Educational Resources (Liubliana, 2017), was about incorporating OER into the educational systems of all countries, demonstrating the best practices of the open educational resources, and defining the relevant recommendations. Consequently, open educational resources in the form of textbooks, interactive courses, tests, multimedia, and software are gaining increasing importance in modern educational practice.

Based on the open access to scientific information, the term "open knowledge" is also used; it is considered as that which can be freely used and spread by everyone without any legal, social and technological restrictions. Knowledge in this context implies data, content and general information, so open knowledge can be interpreted as open data, open content and open access (*The Open Definition,* n. d.).

Open access to scientific information supports effective scientific communication. The system of scientific communication is a rather complex formation. Through its channels, it provides intellectual exchange of information and special communication, spreads findings of the research, theoretical foundations and concepts that ensure the maintenance of a dialogue aimed at improving knowledge in a certain thematic or subject field (Salo, 2016). As N. Veretennikova, N. Kunanets (2014), American researchers L. Thomas (2012), F. Manista (2012), J. Ogburn (2012) and others claim that not only researchers, but librarians, publishers, and academic administrators are involved in the system of scientific communication.

For our research, the term of "electronic journal systems of open access" is important as systems of freely spread software that ensures the establishment and management of a publishing process of a full cycle from uploading the manuscript to the site, reviewing, editing it before publishing, storage, dissemination, and its indexation (Luparenko, 2011).

In the article we make an attempt to outline the benefits of using open access to scientific information, the features of the "green" and "golden" ways, as well as to observe the widespread e-platforms, which include national scientific e-journals of open access that constitute **the purpose of the article.**

Presentation of basic research material. The emergence of a notion of open access to scientific information is connected with two factors: the first one is the intensive digitalization of our society, the emergence and rapid spread of the Internet, the second one – a rather high and constantly growing subscription to scientific journals (the practice which is common in the US, Canada, European countries, which prevents the development of science). In the 1990s an active discussion of the issue of accessing scientific information began, in 1998 the American Scientist Open Access Forum was held. In 2002 the Budapest Open Access Initiative (BOAI) was adopted, in which the definition of the concept of "open access" was formulated for the first time and free online access to scientific literature was declared, free use for research, training and other purposes, the author's right to control his work and the right to link and quote were introduced. More precisely, the specificities of open access are described in the Bethesda Statement on Open Access Publishing (2003) and the Berlin Declaration on Open Access for Science and Humanities (2003).

Today two ways of open access are realized:

1. "Green Way" – creation of open access archives and deposition (or self-archiving), that means the placement of already published articles in the repository by an open thematic or institutional electronic archive by the scientists themselves. Repositories also contain other types of scientific and educational documents: dissertations, abstracts, scientific reports, presentations, data, images, etc. (*Open Access,* n. d.). Currently, at each university, an institutional repository is created, it includes the metadata for each publication (title, author affiliation, abstract in two or three languages, keywords, other bibliographic details) in the format of the Open Archives Initiative Protocol for Metadata Harvesting. Open access repositories provide

permanent storage and secure preservation of publications, permanent URLs, prompt dissemination of scientific research among the world's scientific community, metadata search and full text search in digital materials, obtaining guaranteed high indexing results on Google and other search engines, the ability to enrich CV of researchers with full texts, raising the rating and citation index, the ability to search for international partners, etc. (*Open access to scientific information: who, for what and how*, n. d.).

Nowadays social networks for scholars also become popular. They include Academia.edu (academia.edu), ResearchGate (www.researchgate.net), the international educational global network Ayorn (iEARN), ResearcherID (www.researcherid.com), Ukrainian Scientists Worldwide (http://usw.com.ua/), etc. They also open the "green way" to scientific publications.

In 2009 an innovative project "Electronic Library of Ukraine: Creating Knowledge Centers in Ukrainian Universities" (elibukr.org), which combines the libraries of higher educational institutions, national libraries, and others, in order to provide access to world scientific information, create their own academic resources, and integrate Ukrainian science and librarianship into the world of scientific communication, was launched. According to T. Yaroshenko, the project provides the subscription to licensed information products for each university – electronic journals, e-books, and databases. Students, faculty, and academics get free access to all project resources (Yaroshenko, 2009).

Fig. 1. International symbol of open access to scientific information, created by the Public Library of Science (PLoS)[1]

2. The "Golden Way" is an open access journal that implements a financial model when subscribers do not pay for a journal, but authors or institutions do. In 2002 the Directory of Open Access Journals (DOAJ, http://www.doaj.org/) was created – an international multidisciplinary catalogue of open access journals that is intended to embrace all open scientific journals that adhere to the general principles of scientific publications quality, and thus contribute to their spread, use and popularization of the Open Access notion represented by the most authoritative scientific journals of open access. Currently, DOAJ contains over 13,000 scientific journals from 130 countries and metadata of the articles from these journals. The catalogue contains about 100 magazines from Ukraine.

Nowadays, all participants in the process of scientific communication (scholars of scientific and educational organizations, publishers, libraries) provide support for open access, as everyone gets some benefits (Fig. 2):

Public Library of Science (PLoS, plos.org) is a nonprofit scientific and publishing project aimed at creating a library of journals and other scholarly literature under a free license and open access.

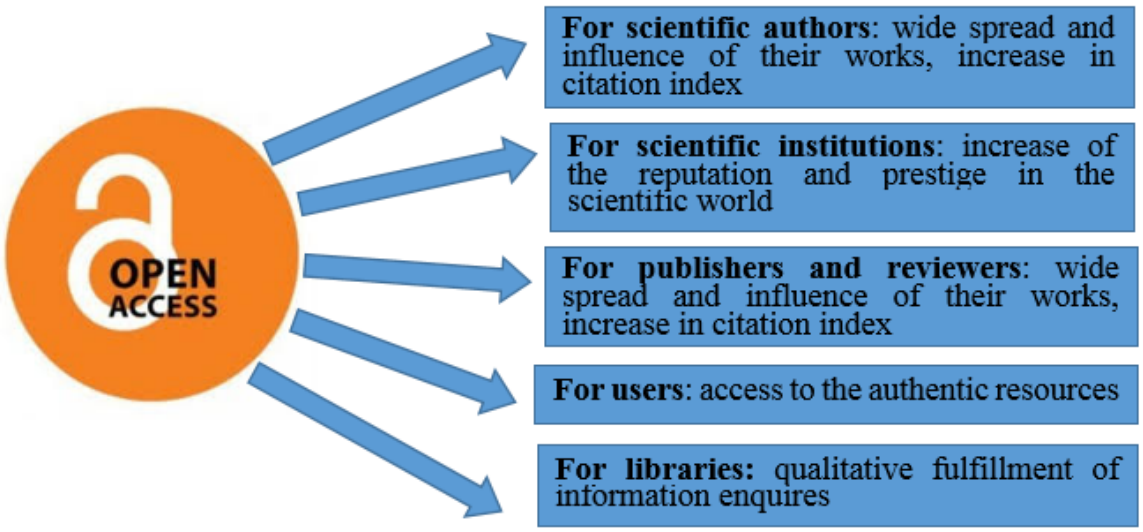

Fig. 2. Advantages of using open access journals (archives) for different groups of participants of scientific communication process

At the same time, it should be noted that not all representatives of the scientific community support the policy of open access to publications, indicating the threat to intellectual property or the poor-quality scientific work. They note that the increase in the number of publications due to open access requires researchers to expand the time spent on familiarizing with the materials on the topic of the research, which leads to reduction of the time for the study itself. The mentioned threats can be addressed in different ways: Creative Commons licenses grant a copyright ownership to the authors and the ability to regulate the use of their works; the detection of low quality works is carried out by reviewing the articles in most journals of prestigious science-based databases with the aim to reduce the time spent on getting acquainted with the materials on the topic of the research, it is advisable to refer to specialized archives and databases, to use the help of search specialists. So, we believe that the benefits of using open access to scientific information are much greater than threats and disadvantages (Fig. 3).

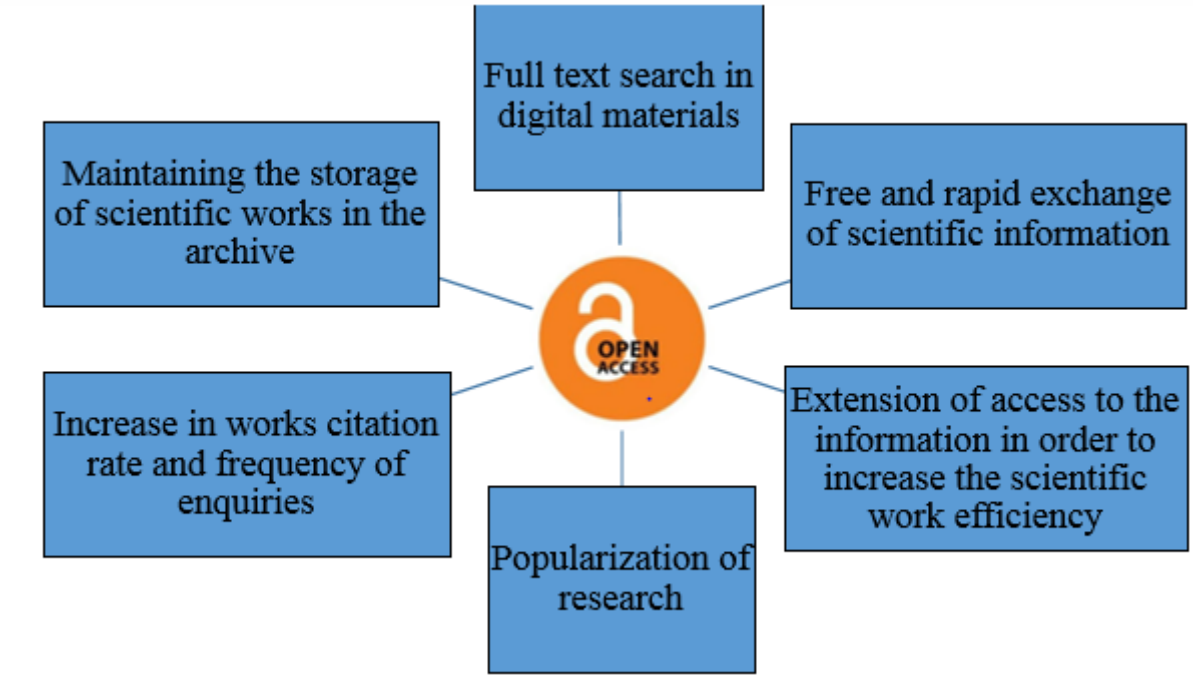

Fig. 3. Advantages of using open access journals (archives) for scientists

There are various types of scientific journals that provide free access to their publications:

- open access journals that provide free online access for readers without any financial, legal or technical barriers;
- hybrid open access journals that provide free online access without any delays to only those articles that are paid by the authors (by their institutions, grant givers);
- journals with delayed access that provide free online access after the end of the embargo period (*Open access to scientific information: who, for what and how*, n. d.).

In Ukraine, the policy of open access to scientific information is supported to be realized at the state level, which is proved by the regulatory framework, in particular: the Law of Ukraine "On the Basic Principles of the Information Society Development in Ukraine for 2007-2015" (2007), in which the provision of free Internet access to resources created at the expense of the state budget of Ukraine is stated; Order of the Higher Attestation Commission of Ukraine and the National Academy of Sciences of Ukraine 07.07.2008 № 436/311 "On Approval of the Procedure for the Transmission of Electronic Copies of the Printed Scientific Special Issues for Preservation to the Vernadsky National Library", which approves the free placement of electronic copies of the printed scientific professional publications on the site of the library and providing free access to them.

Open access to Ukrainian scientific sources is also provided by the project "Scientific Periodicals of Ukraine on OJS"

(http://journals.uran.ua/index.php/index/index); For April 2019, 344 national scientific journals are presented there.

Let also acknowledge the activity of the information portal "Science of Ukraine: Access to Knowledge" (www.irbis-nbuv.gov.ua/Sci_Lib_UA) initiated by V. Vernadsky National Library of Ukraine with the aim to create an integrated information space of Ukrainian science in the digital society; popularization, raising the rating and availability of scientific achievements of Ukrainian scientists, providing extended access to them by the use of library and information resources of Ukrainian scientific libraries and modern web technologies (*Scientific libraries of Ukraine*, n. d.). Information components of the portal include: the register of Ukrainian scientific libraries; scientific and information resources of libraries – systematized according to the types and branches of knowledge annotated the Internet navigator of scientific resources of Ukrainian libraries; the register of scientific institutions of Ukraine and the register of scientists of Ukraine, intended to conduct a search of scientific publications and publications of Ukrainian scientists, connected to electronic library information resources. The "Scientists of Ukraine" register in April 2019 included 140,393 entries, it is automatically built based on information from bibliographic descriptions of dissertations (Candidates and Doctors of Sciences) which have been in Ukraine since 1996, the list is completed with the articles of each author whose electronic works are in library funds.

The profile of a scientist on the portal "Science of Ukraine: Access to Knowledge" has the following view (Fig. 4).

Legal support is provided by the Creative Commons (http://creativecommons.org) license, a flexible and fair system to use copyright objects in the digital environment, which, on the one hand, protects the authors, and on the other hand – prompts the free use of their works. Creative Commons license allows the authors to independently determine the basics of further use of their works, protect them from unauthorized use, and create a legal environment for free content sharing. The users also gain the opportunity to freely use digital content with the authors' and other copyright owners' consent.

A number of Ukrainian writers, musicians, scholars, educators, and other content creators actively practice the free spread of their works on the Internet. They are to define the degree of protection of their works and the conditions for their use. International copyright law, which Ukraine follows, does not create any obstacles to such activities.

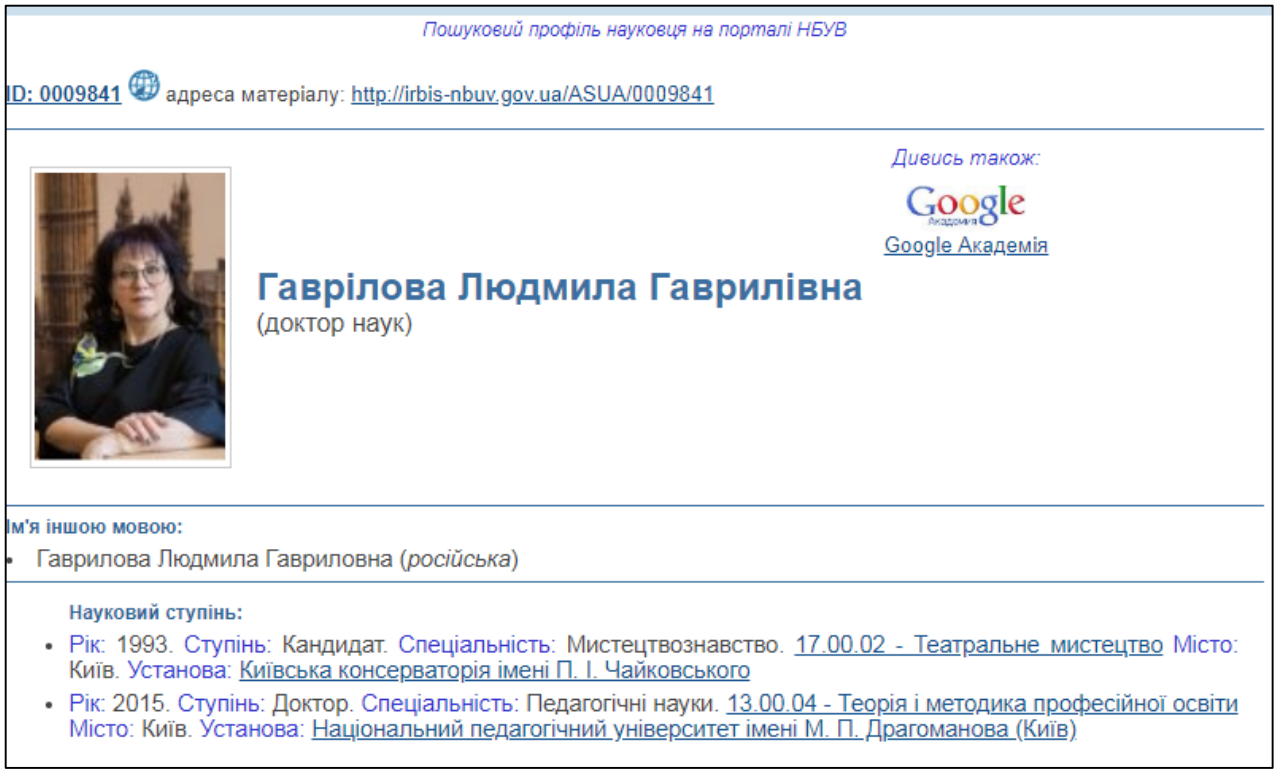

Fig. 4. Profile of L. Havrilova on the portal "Scientists of Ukraine" (http://irbis-nbuv.gov.ua/ASUA/0009841)

Creative Commons licenses are gradually involved into the legal field of Ukraine. There are currently six main types of these licenses, including:

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– Creative Commons Creative Commons Attribution Share-Alike, CC BY-SA license, within which the author allows to distribute (copy, transmit) the work, even for commercial purposes; modify (reproduce, develop) the work under the conditions of: retaining the reference to previous authors in their designated form (Attribution), spreading the changed work by the following co-author under the same license CC BY-SA (Share Alike). Materials published under this license can also be disseminated through Wikipedia and the Wikinews freely;

– Creative Commons Attribution License – Creative Commons Attribution NoDerivs, CC BY-ND. Under this license, the author allows to distribute (copy, transmit) the work, even for commercial purposes, under the following conditions, it is not allowed to modify, reproduce, and develop a work (NoDerivs), keeping the reference to the author in the form specified by him is obligatory (Attribution) (About Licenses – Creative Commons, n. d.).

All types of Creative Commons licenses can be found at https://creativecommons.org/.

Currently, most institutions in Ukraine support the initiative of open access to knowledge by developing open electronic archives (institutional repositories) and open electronic journals of Ukrainian universities, which fully comply with the recommendations of the Association of European Universities on open access (2008), the recommendations of the international associations IFLA, SPARC, LIBER, and EiFL, as well as the resolution of the Supreme Council of Ukraine "On Recommendations of the Parliamentary Hearings on the Information Society Development in Ukraine" (2006) concerning the provision of open free online access to the resources created by the state budget of Ukraine.

We reckon that one of the effective ways of scientific communication and IC support of scientific activity presented by lecturers of higher educational establishments, employees of scientific institutions, graduate students, doctoral students, etc. is the use of electronic open access systems, in particular, open log systems that provide free, fast, permanent, and full-text access in real-time to scientific materials. To understand the peculiarities of using open source electronic journal systems, one should be familiarized with freely spread software that provides the opportunity to organize a full cycle of the publishing process from uploading a manuscript to a website, reviewing it, literary editing before publishing, storage, distribution and indexation.

National scientists have analyzed and evaluated several electronic journal systems used in world scientific electronic issues, such as Digital Publishing System (DPubS), HyperJournal, OJS (Open Journal System), and E-Journal. Systems are analyzed from the standpoint of installation experience, availability of detailed documentation and some other indicators (source data and information on further support and project accomplishment, technical requirements and service, functional features of the system, access and support of formats, e-commerce tools, etc.) (Spirin et al., 2016).

The most suitable for use in domestic scientific institutions or educational institutions is the Open Journal System (OJS), the open standardized software, created to provide electronic scientific publications of open access and increase their readership on a global scale.

To the main features of the OJS system L. Luparenko (2011) refers:

– local installation and local control;
– independent upload of manuscripts;
– archiving of submitted manuscripts and published articles (while publishing the system automatically monitors and stores dated records about the number of downloaded files, the index of accepted / rejected articles, all executed actions and editorial decisions);

– an automated and unbiased review procedure (the database stores information about the field of scientific interests of each reviewer and their contact information);

– an automated process of sending emails containing information about each stage of the editorial process to users;

– implementation of the publishing process remotely through the Internet, involving authors, reviewers and editors from other regions;

– support of publishing articles in various formats (html, pdf, mp3), simple multimedia components and full colour graphics;

– possibility of attaching additional files (presentations, audio or video materials) to the main text of the article;

– global indexation of the content by various analytical services such as Google Scholar, Scopus, Web of Science, etc.

According to L. Luparenko, O. Spirin, A. Yatsyshyn and others, the Open Journal System, taking into account a set of functional capabilities and powerful tools for managing the publishing process at all its stages (from the upload of the manuscript to the journal website to the publication of the articles), is the most suitable for use in national scientific institutions or educational institutions with the aim of publishing professional scientific works in the field of psychological and pedagogical sciences (Luparenko, 2011; Spirin et al., 2016; Yatsyshyn, 2015).

Ukraine has a significant number of electronic issues that are published through the OJS system. This is primarily the scientific journal "Information Technologies and Tools of Education" (journal.iitta.gov.ua) published by the Institute of Information Technologies and Tools of the National Academy of Sciences of Ukraine; specialized scientific publications of H. Skovoroda Kharkiv National Pedagogical University "Means of Educational and Research Work" (Journals.hnpu.edu.ua/index.php/sciencemeans), "Pedagogy and Psychology" (journals.hnpu.edu.ua/index.php/pedagogy), etc.; scientific collection "Advanced Education" of the National Technical University of Ukraine "Kyiv Polytechnic Institute" (ae.fl.kpi.ua/); Collections of scientific works stored in Lviv National Pedagogical University "Language and Society" (publications.lnu.edu.ua/collections/index.php/ls), "Visnyk of Lviv University. Pedagogical Series" (publications.lnu.edu.ua/bulletins/index.php/pedagogics) and others.

The scientific level of electronic scientific journals of open access, which are included in the list of professional editions of Ukraine, should be high enough that is proved by the requirements for the editorial board members. According to the updated procedure of forming the scientific list of professional issues of Ukraine in 2018, there should be at least seven scientists in the editorial board with a degree in one of the specialties corresponding to the scientific profile of the publication. Each of these specialists, including the editor-in-chief of the issue, must have at least three

publications in the last five years or at least seven publications (articles, monographs, chapters of monographs corresponding to the scientific profile of the publication) for the last fifteen years, that includes at least one for the last three years, published in at least two different issues included in the Web of Science Core Collection and / or Scopus, or have monographs or parts of monographs issued by international publishers in categories "A", "B", or "C" by the classification of Research School of Socio-Economic and Natural Sciences of the Environment (SENSE) (On Approval of the Procedure for the Formation of the List of Scientific Professional Publications of Ukraine, 2018). Requirements for the editorial board, as well as requirements for reviewers, should ensure a high level of scientific journals.

According to the "Procedure of Forming the Scientific List of Professional Issues of Ukraine", it is recommended to attract to the review process those scientists who "carry out research in the specialty and have not less than one publication for the last three years, published in at least two different editions included in the Web of Science Core Collection and / or Scopus, or have monographs or parts of monographs issued by international publishers in categories "A", "B", or "C" by the classification of Research School of Socio-Economic and Natural Sciences of the Environment (SENSE); reviews, signed by the reviewer with a regular or digital electronic signature, must be kept in the editorial office for at least three years" (On Approval of the Procedure for the Formation of the List of Scientific Professional Publications of Ukraine, 2018).

Attention should be paid to the possibility of conducting information-analytical monitoring in the open electronic source – OJS system, which is implemented through a number of software plug-ins, including:

– Own Open Genres Plugin (Article Level Metrics plugin that displays the number of individual article views on the website; Popular Articles Block Plugin that allows you to view the most popular (by the number of views) articles; Google Analytics module that integrates Open Journal and Google Analytics systems);

– Statistical modules, that are provided by third-party resources (Flag Counter (http://s11.flagcounter.com/index.html) – a free counter built-in html-code of a web page that tracks the location of its visitors; RevolverMaps (https: // www.revolvermaps.com), which shows the geography, time and total number of visits to the site for the entire period, other Internet statistics services).

With the help of the Open Journal System, you can track the number of the article citations (figure 5), make a quote on the article in accordance to the requirements of the APA, BibTeX, CBE, ABNT, MLA, Turabian, RefWorks, ProCite, etc., get index metadata of articles, etc.

Submitting an article to a journal included in the Open Journal System takes place through a user's account in several steps: "Step 1. Beginning of a submission" it should be confirmed that the publication that one has prepared meets all the requirements of the journal; "Step 2. Uploading a submission" involves attaching a file

with the article; on the page “Step 3. Entering the metadata of submission” a person should fill in the proposed fields with relevant information (authors, e-mail, ORSID ID, write abstract and keywords, etc., “Step 4. Uploading accompanying files” provides an opportunity to upload supplementary files that are not included in the publication; the last step is a confirmation of the submission.

Some electronic scientific issues are developed on the basis of site management systems, software for maintaining websites or other information resources, and are hosted on the network at a specific address. Among the content management systems is Joomla !, a free software licensed by the General Public License (GPL), which has a complete Ukrainian localization, written in PHP using the MVC architecture. MySQL, PostgreSQL or MS SQL database is used to store information. Joomla has a number of embedded free modules, plugins and components, moreover, there is a huge number of third-party extensions that help to implement a scientific issue.

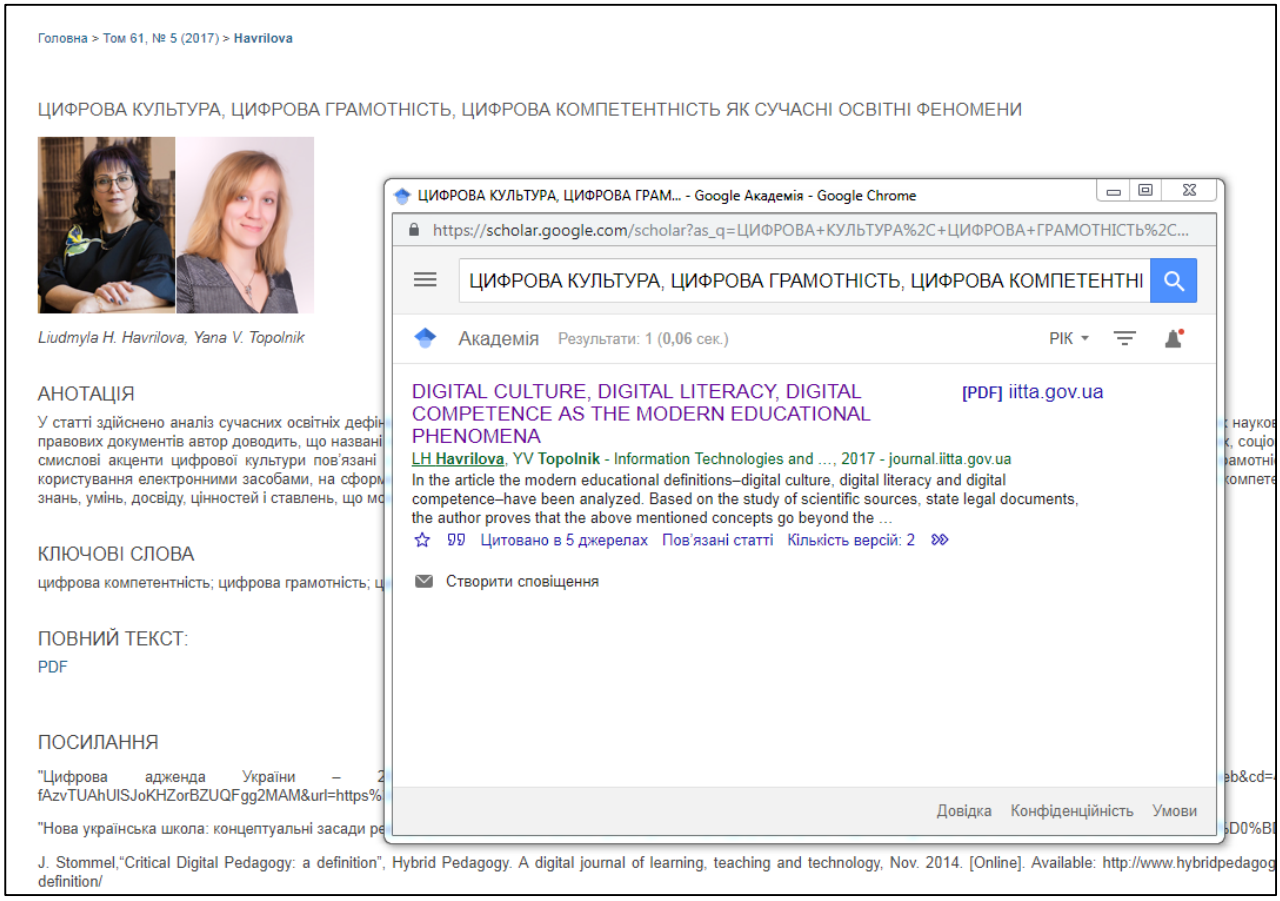

Fig. 5. Search for article citations in the journal “Information Technologies and Learning Tools”, which uses the Open Journal System

Among the scientific publication issues on the Joomla-based network there is the journal “Professionalism of the Teacher: Theoretical and Methodological Aspects”, published by SHEI “Donbas State Pedagogical University” (http://pptma.dn.ua/index.php/uk/) (Fig. 6).

The structure of the electronic issue is very close to the journals hosted in the Open Journal System. The procedure for submitting an article is slightly different it should be sent after the user's registration at the specified address.

Electronic scientific issues of open access, which meet the quality requirements, have a strong editorial board, taking into account the requirements of scientific ethics and the level of technical support, they are included in the directory of open access journals (DOAJ).

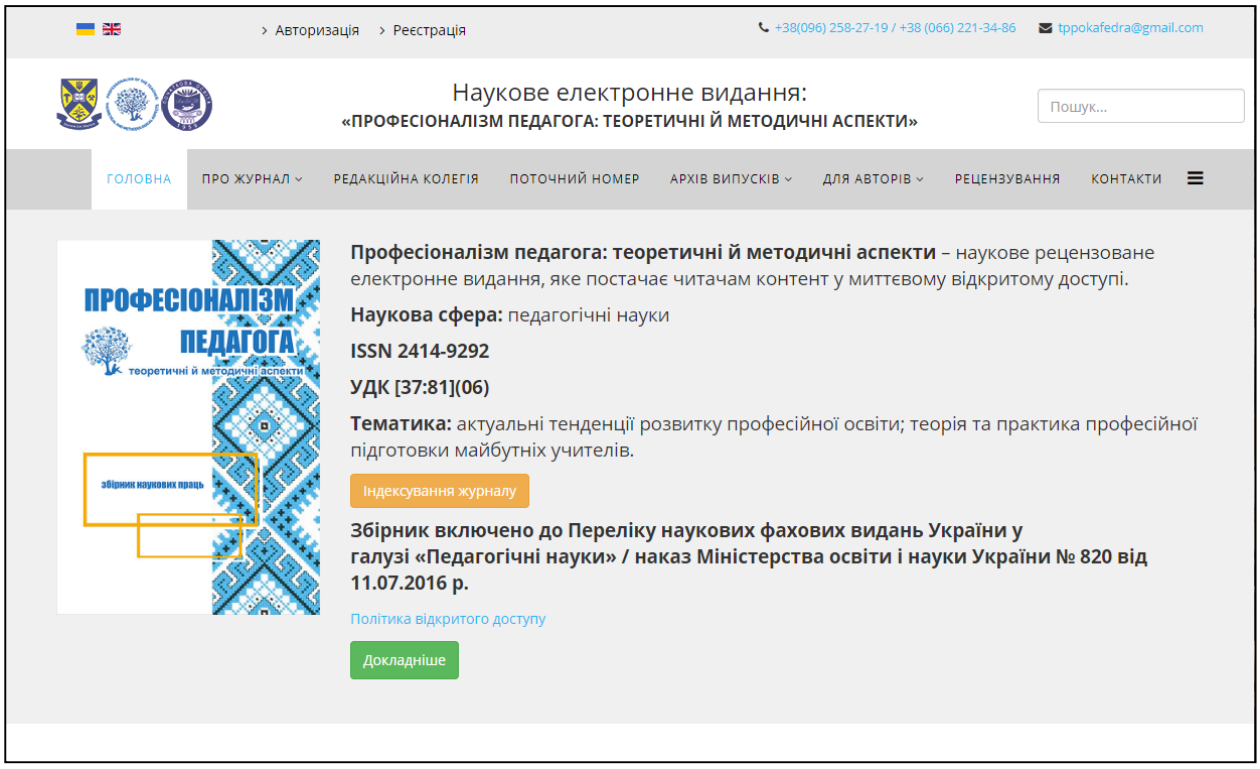

Fig. 6. The main page of the scientific electronic edition of the SHEE "Donbas State Pedagogical University" "Professionalism of the Teacher: Theoretical and Methodical Aspects"

The conclusions and the perspectives of further research. Awareness of the policy of open access to scientific information, the study of the principles of scientific electronic editions work which provide open access, the preparation of scientific research materials for publication in these editions, taking into account all the requirements that are put forward to modern professional articles indexed in international science-computer databases, all of the mentioned above form an important part of scientific activity of higher education establishment lecturers, employees of scientific institutions, doctoral students and post-graduate students.

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ВІДКРИТИЙ ДОСТУП ДО НАУКОВОЇ ІНФОРМАЦІЇ ЯК ЗАСІБ ІНФОРМАЦІЙНО-АНАЛІТИЧНОЇ ПІДТРИМКИ НАУКОВОЇ ДІЯЛЬНОСТІ ТА КОМУНІКАЦІЇ

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Анотація. У статті проаналізовано проблему відкритого доступу до наукової інформації. Наведено сучасне тлумачення понять: «відкритий доступ» (Open Access), «відкриті освітні ресурси» (Open Educational Resources, OER), «відкрите знання» (Open Knowledge), «електронні журнальні системи відкритого доступу». Окреслено переваги використання відкритого доступу до наукової інформації, особливості «зеленого» та «золотого» шляху, а також розглянуто поширені е-платформи, на яких розміщено вітчизняні наукові е-журнали відкритого доступу, що становило мету статті. Указано, що ключовими чинниками виникнення руху до відкритого доступу були інтенсивна інформатизація суспільства, поява та стрімке поширення Інтернету, а також досить висока й постійно зростаюча передплата на наукові журнали; із появою на початку XXI століття кількох міжнародних документів було задекларовано безкоштовний онлайн доступ до наукової літератури та введено поняття «відкритого доступу». Описано особливості двох шляхів відкритого доступу: «зелений шлях», яким передбачено створення архівів відкритого доступу, розміщення науковцями своїх уже опублікованих статей в репозитарії; «золотий шлях», який реалізують журнали відкритого доступу, що впроваджують фінансову модель, коли за процес наукового видавництва сплачують не передплатники журналів, а автори або інституції. Визначено переваги відкритого доступу до наукової інформації. Наведено приклади інформаційних проектів і порталів, які надають відкритий доступ до українських наукових джерел: «Наукова періодика України на OJS», «Наука України: доступ до знань». Відзначено, що правове забезпечення відкритого доступу забезпечують ліцензії Creative Commons, що є гнучкою і справедливою системою використання об'єктів авторського права в цифровому середовищі. Наведено приклади відкритих електронних журнальних систем, що використовуються у вітчизняних наукових установах: Open Journal System (OJS) – відкрите стандартизоване програмне забезпечення, яке створене з метою надання електронним науковим виданням відкритого доступу та збільшення їхньої читацької аудиторії у світовому масштабі; Joomla! – система керування вмістом, вільне програмне забезпечення, яке стає платформою для розміщення електронних наукових видань.

***Ключові слова*:** відкритий доступ; відкриті освітні ресурси; відкрите знання; електронні журнальні системи відкритого доступу; ліцензії Creative Commons.

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