

## DIGITAL LIBRARY AS A CONSTITUENT ELEMENT OF CONTEMPORARY INFORMATION LEARNING ENVIRONMENT

Topolnyk Ya.V.

SHEE «Donbass State Pedagogical University»

The digital library is an essential attribute of information society that dialectically challenges institutionalized practices of traditional librarianship. Higher education happened to become the stage of the early transformations of teaching institutions, brought by the novel information and communication technologies. Academic digital libraries need consideration as representing crucial contradictions of the broader process of social evolution. The forms of electronic library are defined in accordance to the structure of their organization (independent, a shared resource, integrated), to the types of agencies of digital library maintenance, to their content (universal, thematic, sectoral or personal). Digital libraries should be studied in the wide scope of social aspects of their functioning as a novel information and communication tool, involving legal, economic, educational aspects of information technologies.

**Keywords:** digital library, education, electronic learning facility, information and communication technology, legislation.

**Formulation of the problem.** Modernization of education system determined by development of information society requires transformation of traditional patterns and ways of librarian functioning, scaling up of demands to libraries as important tools of learning and research activities, reshaping of librarian practices through increase of information potential, integration of library resources, providing learning and research activities with full, operative and reliable information, creation of proper information environment and easy access to information for the users from education sphere. Libraries have attained a crucial role in formation of digital corpora of scientific knowledge and organization of access to them. Librarian activities are now becoming an important factor of social development. They process, edit and provide access to absolutely concrete object, which is knowledge represented as information resource.

**Analysis of recent research and publications.** Theoretical principles of library functioning within electronic environment have been analyzed by such researchers as T. Bakhturina, T. Kuzmishina, I. Morgenstern, Yu. Stoliarov, E. Sukisian, and others. Current tendencies and future perspectives of development of digital libraries draw Ya. Shraiber; as well as by some Ukrainian investigators: O. Barkova, L. Kostenko, O. Onyshchenko, I. Pavlusha, T. Pavlusha, M. Slobodianyk, A. Chekmariov, and others. It is not surprising that «digital library» as notion occurs on pages of special literature and can be heard at scientific seminars and conferences more and more frequently. Today many educators address their research interest to problems of how to develop and use digital libraries for teaching purposes.

For instance, G. Kravtsov defines theoretical and methodological principles of education management through the quality of digital learning facilities of certain university [8]; O. Shcherbyna, in her turn, focuses on theoretical and methodological principles of designing digital learning resources for open systems of qualification enhancement for technical university faculty [13]; Yu. Kornylets detect peculiarities of digital library development management in learning environment of higher

education institutions [7]; N. Prylutska attempts to implement the methodology of digital library use aimed at formation of technological competences of future Math teachers [11].

Thus, G. Kravtsov defines digital libraries as a kind of digital learning tools which is a part of the whole education process, bears certain educational function, when employed in learning activities of students, which therefore shall be considered as one of the main elements of learning information environment [8, p. 84].

**Selection of previously unsettled parts of the general problem.** The digital library is now transforming into a constitutive attribute of learning information environment at university and higher school, which can be defined as an information library system with designated purpose, digital fund of documents, structured according to certain methodology, and open for local and remote use by students and teachers. The university learning information environment can be understood as an open, multi-dimensional learning milieu which involves psychological and pedagogical conditions, modern information and communication technologies and teaching tools, aimed at enhancing interaction, cooperation and personal development of teachers and students when resolving their educational tasks (according to L. Panchenko [10, p. 15]).

**The purpose of the article.** The main purpose of this work is to generalize the most relevant approaches to the problems raised by designing, developing and implementing digital libraries within contemporary learning information environment.

**Presenting main material. Invention of digital libraries and legal principles of their functioning.** As late as seventies of the 20th century various military, academic and education institutions and industrial enterprises began to create huge collections of documents. This can be considered as historical origin of digital libraries.

The project Gutenberg was one of the first collections containing digital versions of printed books. This project was launched in Materials Research Laboratory at the University of Illinois in 1971.

Nowadays we know about the current European project Bibliotheca Universalis aimed at creation of the global network of digital libraries. Among

the project's objectives they mention formation of a great shared collection of scientific knowledge and maintenance of open access to the Internet users. The G7 states included this project to the list of eleven most important scientific technical projects.

Unluckily, in Ukraine development of digital libraries remains underscored. One of the first initiatives in this area resulted with decision of Information and Library Council of National Academy of Sciences, which assigned creation of digital scientific library of NAS to Vernadsky National Library of Ukraine.

Now the National digital library of Ukraine includes three main components: digital documents fund (which contains digital versions of books and journal articles); national abstract database «Ukrainicanaukova» (which contains monographs, encyclopedias, guides, dictionaries, journals, scientific collections, conference materials, abstracts of theses); digital catalogue of Vernadsky National Library of Ukraine [5].

Creation of the digital network of libraries by the National Academy of Pedagogical Sciences of Ukraine aims at formation of scientific learning resources with open access for the Internet clients.

I. Davydova, a contemporary education theorist, defined legal principles which determine operation of digital libraries in Ukraine. She discovered that the legal regulation of the digital library functioning, which is a complex and spatially distributed environment, spreads through several levels: legal regulation of digital library functioning as social institution; legal regulation of creation of digital products and services; support of civil rights of intellectual property and the client rights of the digital products and services users [3].

Legal support of digital library operation includes: a) legal status of the digital library; b) legal norms defining order of operation, regulating production, distribution and use of information; c) rights, functions and responsibilities of the personnel; d) legal assignments to managerial activities and others.

The scope of legal regulation of electronic libraries in almost all countries of the world includes such aspects as: copyright and related rights, legal protection of databases (database), computer programs, personal data, user authentication, electronic payments via Internet.

There is also a system of information legislation, which provides only partial legal framework to functioning of electronic library in Ukraine. This system includes: information and legal norms of the Constitution of Ukraine that define information rights and freedoms and set basic rights and duties of the actors involved in production and dissemination of information; the branch of Ukrainian legislation focused on issues of Information Law (the Laws of Ukraine «On the Fundamentals of Information Society Development in Ukraine for 2007-2015» (2007), Resolutions of the Cabinet of Ministers of Ukraine «On approval of the Strategy of information society development in Ukraine» (2013), «On approval of the State national cultural target program for creation of a single information library system» Library-XXI» (2011) etc.; separate information and legal norms from other areas of legisla-

tion (Civil Code of Ukraine, the Code of Ukraine on administrative offenses, the Customs Code of Ukraine, the Criminal Code, acts of responsibility for offenses in the sphere of information) [3].

**The status of digital library.** Libraries operate according to the Article 34 of the Constitution of Ukraine which establishes the right «to freely collect, store, use and disseminate information orally, in written or otherwise to one's choice» [5] and the Law of Ukraine «On Copyright and Related Rights» (1993), which regulates legal relations in the field of copyright and related rights; defines property and moral rights of authors, order of copyright protection, duration, procedure for transfer of copyright. The Law is extended with the list of works protected and those objects that are covered by this act. [3].

Although there is no exact definition of «electronic library» in the text of the Law, according to its functional aspects digital library is subject to the Law of Ukraine «On Libraries and Librarianship» (hereinafter – the Law) [4].

In particular, the Law declares that the basis for state policy in the field of librarianship is fulfillment of civic rights to library services, providing general access to information and cultural values, which are collected, stored and made available for temporary use by libraries. The state, in its turn, stimulates distribution of up-to-date Ukrainian books, works of world literature in Ukrainian translation in different media, including adapted for the blind, visually impaired persons and persons with dyslexia to libraries. The state shall ensure effective implementation and operation of electronic book use and circulation of e-books through libraries; develop national trend of producing and processing electronic books, catalogs, databases; create conditions and coordinate activities with the functioning of electronic libraries, including special digital format for the blind, visually impaired persons and persons with dyslexia [1]. In 2011, there occurs the Concept of the State National Cultural program for creation of a single information library system «Library-XXI». The Program aims at «enhancement of use efficiency, availability of documents stored in library, archive and museum collections» [2].

**«Digital library» as a scientific concept.** It was the beginning of the 2000s, when Ukrainian scientists began to study the problem of defining «electronic library».

In the opinion of I. Pavlusha, digital library is a kind of documentary distributed system, which contains documents regardless of their physical location and legal affiliation (libraries, archives, museums, information centers, etc.) in a machine-readable (electronic) form, with a single interface to access provided with software from a single point via Internet [9, p. 8].

However, A. Zemskov notes that digital library is a system of access to remote or local electronic resources, set on a professional basis and thematically oriented (or organized in a different way), which is able to maintain electronic resources and provide specialized assistance to local or remote users [6, p. 30].

M. Yatsymirskaya defines the concepts under consideration as follows: electronic library is an infor-

mation system that enables one to securely store and effectively use various types of electronic documents and transmit information in a convenient form to the end user [14, p. 30].

In the Draft of the conception of electronic library of the National Academy of Pedagogical Sciences of Ukraine, the term «digital library» means a distributed information system that allows to collect, securely store, and effectively use various collections of electronic full-text documents that are available in user-friendly form via global data exchange network [12].

We borrow the definition offered by Yu. Kormylets, which she delivers in the following form: e-library is a library information system, which has a specific purpose, electronic fund of documents organized by specific methods, used by local and remote clients [7].

**Universities libraries of Ukraine.** We have analyzed 28 sites of higher educational institutions of Ukraine, which allowed to make some generalizations. Almost all universities have links to electronic library resources. Full-text publications in electronic libraries are offered by 7 universities, representing 26% of the total amount. Electronic catalogs and electronic repository sites are in 22 libraries (81.5%). Information about the library several higher educational institutions (22.2%) re-

ferred only to the home pages of universities without links to their libraries' sites.

Thus, it may be noted that the electronic libraries of educational institutions of Ukraine are at the stage of active development, expanding their electronic resources each year.

**Conclusions and recommendations.** Public recognition and credibility of the library are determined by the richness and quality of information and library resources, level of relevance to information needs of users. The development of information and communication technologies and the growing demands of the people to information and library services have led to a qualitative change in the organization of information resources, their storage and access to them. One of the directions of the organization of electronic information resources is creation of digital libraries.

The library today is an integral part of the educational information environment of higher education. The feature of high school libraries is their involvement in the structure of higher education. The development of libraries of higher education today is determined by the process of informatization of the entire system of modern education.

Further development of this research would approach conditions managerial aspects of the development of electronic library of higher education.

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**Топольник Я.В.**

ДВНЗ «Донбаський державний педагогічний університет»

## **ЦИФРОВА БІБЛІОТЕКА ЯК КОМПОНЕНТ СУЧАСНОГО ІНФОРМАЦІЙНО-ОСВІТНЬОГО ПРОСТОРУ**

### **Анотація**

У статті здійснено узагальнення існуючого досвіду дослідження проблем створення, розвитку і функціонування електронної бібліотеки як складової сучасного інформаційно-освітнього середовища. Розглянуто підходи до визначення поняття «електронна бібліотека». Визначено мету створення, специфічні особливості, функціональні можливості, основні функції електронної бібліотеки. Викладено концепцію електронної бібліотеки в узагальненому вигляді. Наведено основні принципи, які повинні бути враховані під час створення мережі електронних бібліотек. Відзначено, що електронні бібліотеки існують в 3 основних видах. Також виділені види електронних бібліотек за організаційною структурою, за ознакою відмінності творців електронних бібліотек, за змістом. Наведено основні засоби формування електронної бібліотеки. Відзначено, що електронна бібліотека тільки тоді стає бібліотекою в загальноприйнятому сенсі, коли в ній ведеться робота з користувачами. Зазначено, що створення електронних бібліотек є одним з напрямків організації електронних інформаційних ресурсів.

**Ключові слова:** електронна бібліотека, інформатизація, електронний навчальний центр, інформаційно-комунікаційні технології, законодавство.

**Топольник Я.В.**

ГВУЗ «Донбасский государственный педагогический университет»

## **ЦИФРОВАЯ БИБЛИОТЕКА КАК КОМПОНЕНТ СОВРЕМЕННОГО ИНФОРМАЦИОННО-ОБРАЗОВАТЕЛЬНОГО ПРОСТРАНСТВА**

### **Аннотация**

В статье осуществлено обобщение существующего опыта исследования проблем создания, развития и функционирования электронной библиотеки как составляющей современной информационно-образовательной среды. Рассмотрены подходы к определению понятия «электронная библиотека». Определены цели создания, специфические особенности, функциональные возможности, основные функции электронной библиотеки. Изложена концепция электронной библиотеки в обобщенном виде. Приведены основные принципы, которые должны быть учтены при создании сети электронных библиотек. Отмечено, что электронные библиотеки существуют в 3 основных видах. Также выделены виды электронных библиотек по организационной структуре, по признаку различия создателей электронных библиотек, по содержанию. Приведены основные средства формирования электронной библиотеки. Отмечено, что электронная библиотека только тогда становится библиотекой в общепринятом смысле, когда в ней ведется работа с пользователями. Указано, что создание электронных библиотек является одним из направлений в организации электронных информационных ресурсов.

**Ключевые слова:** электронная библиотека, информатизация, электронный учебный центр, информационно-коммуникационные технологии, законодательство.