

NEW PARADIGM IN LIBRARIES AND LEARNING

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To add a library to a house is to give that house a soul.

Cicero

ABSTRACT

The paper deals with the new vision of libraries in the width context of new information society. The books and libraries change their performance in digital ages. The possibility to access the global knowledge enriches the learning environment.

INTRODUCTION

The digital technologies offer the great possibilities to expand the access to the human knowledge and dreams. In order to explore the best way in the information flow, users need to know how to solve several general problems – indeed the searching among the available resources and to share own. The *web search engines* are designed to search for information on the World Wide Web (WWW) servers and returned results are generally presented in a list.

We can say WWW is a global hypertext library as an interpretation of *a room where books are kept* where we replace a room with cyberspace. The information technologies support opportunity to sharing the resources and opinions. Modern libraries are increasingly being redefined as places to get unrestricted access to information in many formats and from many sources. One of the roles of digital libraries is to support the educational process.

The current Web 2.0 phenomenon is stressing on sharing digital educational resources and discussing the best way of their use. This poses serious challenges to teachers' trainers – to apply the style, which will be most flexible and feasible for teachers, and to prepare them to be ready to teach and learn in the current digital society [1]. In order to explore in the best possible way the knowledge and resource sharing approach, current teachers need to know how to solve several general problems: available resources are scattered and not structured well, which makes them difficult to find. There is significant lack of sufficient meta-information, which can help in the process of searching for the right information at the right time and at the right place.

STRUCTURE OF LIBRARIES

In the traditional sense, a library is a collection of books or sources, resources, and services, and it is organized for use and maintained by a public body, an institution, or a private individual. It can mean the collection itself, the building or room that houses such a collection, or both.

Today the term *library* has itself acquired a secondary meaning: *a collection of useful material for common use*. The libraries become repositories and access points for print, audio, and visual materials in numerous formats, including maps, prints, documents, video, games, e-books, audio books and many other electronic resources. Additionally they often provide public facilities to access to their electronic resources and the Internet.

Classical Automated Library Information Systems

Libraries have materials arranged in a specified order according to a library cataloging and classification system. It helps to locate quickly the items and collections may be browsed efficiently. A **library cataloging and classification** is a system of coding and organizing library materials according to their specific features as a document and to their subject. It allocates a call number to that information resource. There are different kinds of cataloging and classification systems. Usually they are a hierarchical tree structure and allow the assignment of multiple classifications to an object, enabling the classifications to be ordered in multiple ways. Classification systems in libraries generally play three roles:

- facilitate subject access by allowing the user to find out what works or documents the library has on a certain area of knowledge or subject;
- systematization of the bibliographic records for systematic catalogues;
- provide a known location for the information source to be located (e.g. where it is shelved) etc.

Some of the main system's fields are: Title, Series Title, Author, Subject, Call Number, ISBN/ISSN, Record Number and other. Based on these the automated libraries information systems are developed. For example:

- *ALEPH* (used at: Central Library of Bulgarian Academy of Science, <http://www.cl.bas.bg/> and University Library at Sofia University "St. Kliment Ohridski", Bulgaria, http://aleph.libsu.uni-sofia.bg:8991/F/?func=find-b-0&con_lng=bul).
- *COBISS/OPAC* (used at National Library of Bulgaria <http://www.nationallibrary.bg/>)
- A catalog of Public Libraries, New York <http://www.alisweb.org/>.

The next step in the development of the automated library information systems is creation and implementation of the digital libraries.

Digital Libraries

The digital technologies extend the libraries' services beyond the physical walls of a building, by providing material accessible by electronic means, and by providing the assistance of librarians in navigating and analyzing tremendous amounts of information with a variety of digital tools.

Digital libraries are organized collections of digital content made available to the public by cultural and scientific institutions (libraries, archives and museums) and publishers. They can consist of all kinds of *physical* material that has been digitalized (books, audiovisual or multimedia material, photographs, documents in archives, etc.) and material originally produced in digital format. Knowledge sharing is the main function of digital libraries. It can be achieved through:

- Creation and management of digital collections
- Providing free access to leading world scientific achievements
- Sharing of digital learning resources
- Increasing the visibility and widening the influence
- Displaying the best results and products available

Metadata are the key for providing the needed meaning to the original resources, making them more transparent, easy to find and use. They are an additional data, which describe details about the original data. These details may include different characteristics, features, links and properties of the original data. In the past metadata were used mainly to catalogue the books in the traditional libraries. Now metadata are the key for searching, finding and using the right data.

By using metadata we move from digital libraries to specialized massive metadata repositories combined with additional semantic information (most commonly in the form of ontologies and taxonomies) - digital metadata repositories, which try to categorize and link all possible information resources in a given domain.

Metadata are based on ontology model. The term *ontology* comes from Greek philosophy and means *the study of the nature of being*. The term is used in the domain of Knowledge Representation *to categorize the kinds of things existing*. [2]

The ontology supports the complex organizational structure when necessary to capture the areas is considered crucial for describing, exchanging, sharing, and developing resources devoted specifically to education. It is organised in a set of ontology branches, which are dedicated to [1, 3]:

- Digital content (educational resources and artifacts closely related to the concept of “learning object”)
- Competencies (both at subject-matter level and transversally - socio-affective, meta-cognitive, etc.)
- Knowledge domain
- Context (various contexts of action within the domain of Teacher Education)
- Actor (persons in the TE context and in the Share.TEC system)

EDUCATIONAL RESOURCES

Thanks to IT some of the traditional characteristics of the education underwent some modifications. The modern educational model includes:

- Pedagogical characteristics and classification of the resources, more often in the form of ontologies
- Education oriented to the individual needs and to specific competences
- Abilities to understand different languages and different cultures
- Abilities to search for, analyse and reuse information in digital form

Open educational resources

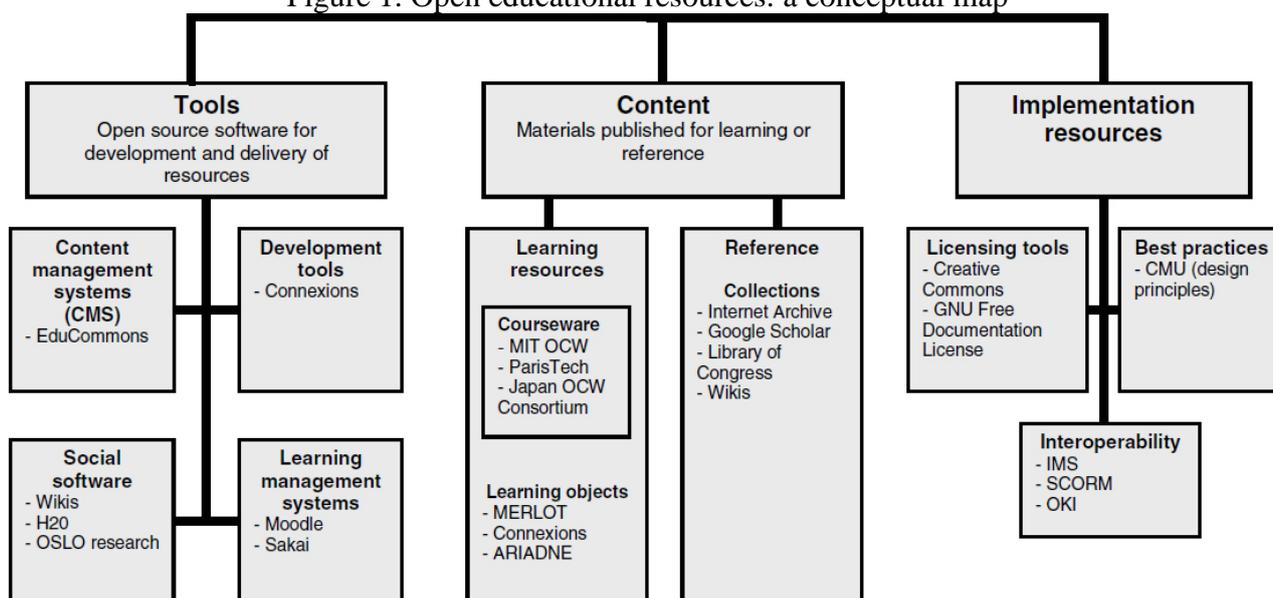
Definition

Open educational resources (OER) are *digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research* [4]. Being a production and dissemination mode, OER are not involved in awarding degrees nor in providing academic or administrative support to students.

The term open educational resources first came into use at a conference hosted by UNESCO in 2002, defined as *the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for noncommercial purposes* [4a] To clarify further, OER is said to include (figure 1):

- **Learning content:** Full courses, courseware, content modules, learning objects, collections and journals.
- **Tools:** Software to support the development, use, reuse and delivery of learning content, including searching and organisation of content, content and learning management systems, content development tools, and online learning communities.
- **Implementation resources:** Intellectual property licences to promote open publishing of materials, design principles of best practice and localise content.

Figure 1. Open educational resources: a conceptual map



Source: Margulies, 2005 [4b]

Initiatives

Last years the discussion pro- and con- open educational resources arose [5]. The new copy right standards were established as Creative Commons specially for educational purposes. The European community supports the idea for OER by open calls in different EU programmes (as 7FP, eContent Plus and other) for developing the repositories with free access. Below there is a list with several initiatives:

TENCompetence (<http://www.tencompetence.org/>) The Foundation exists to support individuals, groups and organisations in Europe in the life-long development of their abilities by developing and promoting the most suitable technical and organisational infrastructure, making use of open-source, standards-based sustainable and innovative technologies. [6]

The principal activity of the Foundation is to promote, maintain and develop the Personal Competence Manager, developed in TENCompetence project, funded by the IST Programme of the European Commission.

OpenAIRE's: (<http://www.openaire.eu/bg.html>) three main objectives are First to **build** support structures for researchers in depositing FP7 research publications through the establishment of the European Helpdesk and the outreach to all European member states through the operation and collaboration of 27 **National Open Access Liaison Offices**; Second objective is to **establish and operate an electronic infrastructure** for handling peer-reviewed articles as well as other important forms of publications; And last - work with several subject communities to explore the requirements, practices, incentives, workflows, data models, and technologies to deposit, access,

and otherwise **manipulate research datasets** of various forms in combination with research publications.

EuDML (<http://www.eudml.eu>) is a CIP project to build the European Digital Mathematics Library. The project, partially funded by the EC, started on 1 February 2010, and will last for three years, until 31 January 2013.;

Share.TEC –Share.TEC stands for *Sharing Digital Resources in the Teaching Education Community* (<http://www.share-tec.eu/>), a 3-year project (2008 to 2011) co-funded by the European Community's eContentPlus programme. Share.TEC is devoted to fostering a stronger digital culture in the Teacher Educators (TE) field and to supporting the development of a Europe-wide perspective among those working in and with the TE community (<http://www.share-tec.eu/>). To do this, Share.TEC is developing an online platform which will help practitioners across Europe search for, learn about and exchange resources of various kinds, and will support the sharing of experience about the use of those resources. The system is primarily designed for teacher educators and for teachers engaged in pre-service education and continuous professional development; it will also cater for developers and publishers of digital resources for TE

ATLAS (<http://www.atlasproject.eu>) – ATLAS is a project funded by the European Commission under the CIP ICT Policy Support Programme. Its main purpose is to facilitate the multilingual Web content development and management, in particular the authoring, versioning and maintenance of multilingual Web sites.;

OpenScout (<http://www.openscout.net/>) OpenScout stands for "Skill based scouting of open user-generated and community-improved content for management education and training". OpenScout is a project co-funded by the European Commission within the *eContentplus* Programme as a Targeted Project in the area of Educational Content (Grant ECP 2008 EDU 428016). OpenScout started in September 2009 and has a duration of three years. OpenScout aims at providing an education service in the internet that enables users to easily find, access, use and exchange open content for management education and training. OpenScout can be used by learners directly but also by training and education institutions that search for learning content to be integrated into their learning offerings.

Europeana (<http://europeana.eu/portal/>) enables people to explore the digital resources of Europe's museums, libraries, archives and audio-visual collections. It promotes discovery and networking opportunities in a multilingual space where users can engage, share in and be inspired by the rich diversity of Europe's cultural and scientific heritage. Ideas and inspiration can be found within the more than 15 million items on Europeana. These objects include

Enabling Open Scholarship (EOS) (<http://www.openscholarship.org>) is an organisation for universities and research institutions worldwide. The organisation is both an information service and a forum for raising and discussing issues around the mission of modern universities and research institutions, particularly with regard to the creation, dissemination and preservation of research findings.

OASIS – Practical Steps for Implementing Open Access (<http://www.openoasis.org/>) aims to provide an authoritative *sourcebook* on Open Access, covering the concept, principles, advantages, approaches and means to achieving it.

All these initiatives should assist the educational process. For developing and maintaining such platforms it is necessary to have prepared the new librarians. An academic course/programme can pre-qualified to the modern stage in library science.

COURSE LIBRARY SCIENCE A- LIBRARY ART

The competencies of librarians should cover different knowledge and skills. They are very dynamic area nowadays. The librarians' expertise depends of their training at each educational level [7]. One academic course for librarians should offer modules as:

- Library Management and Marketing: Quality in library activities and certifying
- Library Knowledge
- Info-broker. Informational competency
- Automated libraries. Digitalization. Property rights
- Communication

They will cover the modern paradigm for theory and practice in library management. The interdisciplinary of course content ensure the future realization of the students.

CONCLUSION AND FUTURE WORK

The librarians and IT experts are asking for users support and they could take advantage of free access to the services. These specialists are main creators of knowledge repositories and stimulate free access for educational purposes. Then the challenge for our knowledge society is to respect the copy rights in the enriched *hyper-library*.

And we are in trend to change the meaning of library and never listen again the words of the Pulitzer Winner Barbara Tuchman: *Nothing sickens me more than the closed door of a library.*

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