"St. Kliment Ohridski"
University of Sofia

Globalization

and the

Management of

Information Resources

Sofia 2010

"St. Kliment Ohridski" University of Sofia

Globalization and the Management of Information Resources

Sofia 2008 is under the patronage of his Excellency

Mr. Georgi Pirinski,

the Chairman of the National Assembly of the Republic of Bulgaria

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Globalization and the Management of Information Resources

Papers from the International Conference
Sofia, Bulgaria,
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Forward and Acknowledgements

Sofia 2008: *Management of Information Resources* was the fifth in a series of conferences held in Sofia, Bulgaria, since 2000. Sofia 2008 was a meeting of a wide range of experts in library and information science, infrastructure, technology, international cooperation and policy from around the world. More than 250 attendees from 35 countries took part in the conference.

This conference was developed through the efforts of many people, each of whom deserve special recognition.

The invitation to hold the conference again in Sofia came from Dean Alexander Dimchev, "St. Kliment Ohridski" University of Sofia, the National Library of Bulgaria and the Union of Librarians and Information Services Officers of Bulgaria. His dedication to building bridges in the library field is exceptional.

The conference would not have been undertaken if it were not for the unstinting support of Dr. Gwen Alexander, Acting Dean, School of Library and Information Management (SLIM), Emporia State University. However, a special thank you goes to Dean Howard McGinn, Seton Hall University libraries, whose contribution and support were greatly appreciated.

Thanks also to Jim Agee, Vania Grashkina, Boriana Hristova, Sven Kuttner, Marta Deyrup, Brian Rosenblum, Bradley Schaffner, and Terry Weech of the conference planning committee for their dedicated work to develop the conference theme.

We also wish to thank our colleagues at the Department of Library and Information Sciences, "St. Kliment Ohridski" University of Sofia for their support, especially Krassimira Angelova, Olia Harizanova, Antoaneta Preslavska, Elitza Lozanova, Milena Milanova, Ilko Penelov, Maria Bogdanova and Vessela Tsokeva. Beth Dains of SLIM efficiently handled the conference registration.

Rebecca Miller from Realm Advising, LLC, deserves special recognition for her comprehensive assistance with a *Sofia* conference yet again. She handled conference marketing, coordinated on-site conference execution, and assisted in the production of the proceedings.

Once again, Jim Agee organized the exhibitor sessions and made it possible for all of us to see and learn about the latest information products and services.

We are very grateful for the patronage of his Excellency Mr. Georgi Pirinski, Chairman of the National Assembly of Bulgaria; the support of Vanya Grashkina, the President of the Union of Librarians & Information Services Officers; Professor Boryana Hristova, Director of the National Library of Bulgaria; and Professor Simeon Nedkov, Head of the Department of Library and Information Sciences, "St. Kliment Ohridski" University of Sofia.

A round of applause goes to Monsignor Cesare Pasini, Prefect of the Vatican Library, who so graciously served as key-note speaker, making Sofia 2008 a special event.

Everyone's combined efforts made this conference a success. We're grateful for their global outlook and commitment to the library and information science field.

Herbert Achleitner
Alexander Dimchev

Introduction

The Sofia conferences of 2000, 2002, 2004, 2006 and 2008 all recognize the importance of libraries in the emergent global information infrastructure. The conferences also noted the dynamic interplay of technology and management of information resources. This interplay of powerful forces drives the current knowledge revolution: A process that requires leadership, vision and a commitment by societies and individuals to cooperate and creatively harvest human resources. Globalization demands the capability to identify, produce, management, disseminate knowledge and information for human development.

Sofia 2008: Globalization and the Management of Information Resources focuses on the tasks faced by librarians and information professionals as the market-driven information-based economy and digitization of information continues relentlessly. To this end, the following conference themes were chosen:

- Access to electronic networks
- Organization, classification and retrieval in a web environment
- Information industry & knowledge management
- Information literacy and lifelong learning
- Digital and virtual libraries
- Information architecture and knowledge management
- Information policy issues in an electronic environment
- Digital rights management (DRM)
- Education and training in a Web 2.0 environment
- Ethics and the right to access to information

In his opening remarks his Excellency Mr. Georgi Pirinski, Chairman of the National Assembly of Bulgaria highlighted the huge role of information and knowledge for the development of society and the role of librarians and information specialists in respects of management of information resources.

The conference papers presented in this volume highlight the trends and on-going issues of our ever-developing information-based world.

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Globalization and Management of Information Resources

International Conference

Sofia, November 12th 2008

Address of his Excellency Mr. Georgi Pirinski

Chairman of the National Assembly of the Republic of Bulgaria

Ladies and Gentlemen,

Good management of information resources in times of globalization is not simply desirable, it is vital. Probably few would deny this thesis. Yet the question before us is making this basic tenet the basic tenet in the work of the main administrative structures and spheres of public life.

The activities of the Parliament in particular bring out the key importance of data-banks and their efficient use. Today citizens live in a global world, in a media and information environment of the internet which shapes a world view through massive streams of information and suggestions.

Representative democracy today faces an unknown challenge so far. Parliamentary institutions are called on to realize the expectations of the public through a responsible and transparent legislative process and parliamentary control, at the same time they are subject to direct critical interest by the press, often with preference to daily issues.

Considering this background it is difficult for parliaments and parliamentarians to defend the authority of legislative institutions and only partially do they succeed to present the essence of their work before the public. Of course, as a whole, the unsatisfactory functioning of parliaments is also due to corruption, an irresponsible attitude and distancing from the electorate.

Namely for these reasons information resources have acquired such a vital role not simply for parliamentary institutions, but also for overall life in states and society as a whole. This significance can be traced along several lines:

• Above all the drawing up and adoption of good legislation today is based on massive data-bases. At the phase of outlying of the concept and draft of a law, a wide specter of valid international laws, significant precedents, and similar normative experience to be taken into account, together with sufficient data of the real necessity and expected parameters in society for a requested norm. Drawing on the NGO sector for its views and direct participation in discussions of draft laws is particularly important. Moreover the adoption of a given law also calls for a competent study of its impact such as its financial influence in the respective spheres;

• In the second place, alongside with their legislative role, parliaments today are called on to raise to a new level the functions of control and monitoring through adopted legislation and the functioning of the executive. This not only introduces a new procedure of question time, but also calls for the necessity of many new forms of current monitoring and feed-back on the functioning of the main Government bodies, but also of the growing number of agencies and regulatory bodies. The nongovernmental sector also has voiced its expectations and requirements.

- In the third place, as a rule parliamentary institutions objectively acquire a different role in the overall life of contemporary society and present day states. In the conditions of globalization they cannot remain enclosed in their classical functions of legislative bodies and the bodies of parliamentary control alone. They are called on to assume state and public functions; they are the bodies, with a potential to exert their influence and maintain daily regulation; to ensure a good standard of life, a united and vital society; essentially they are a combination of two factors which are difficult to combine – high professionalism and specialized work in the field of legislation, the building up of institutions and their control through direct access of wide circles of the public to parliamentary activity, instilled with the spirit of transparency and openness.

The successful resolution of the three groups of challenges calls not only for improved information management, but new quality and efficiency in the generation, systemization and utilization of enormous data-banks and directing them to tens of thousands of users.

This is why the information challenge before present day parliaments is directly significant vital theme at the International Conference *Sofia 2008 Globalization and management of information resources*:

- organization, classification and searches in web-networks;

- the information industry and management of knowledge;

- information sciences and continuous learning;

- digital and virtual libraries;

This is why from a parliamentary point of view I highly value and support the work of Emporia State University, Emporia, U.S.A., LIS, the Department of Library Science, St. Kliment Ohridski University of Sofia, the St. St. Cyril and Methodius National Library, and the Union of Librarians and Information Science Officers.

I am also happy that Sofia is becoming an annual traditional venue on vital problems of information science and information society in a global era.

„ГЛОБАЛИЗАЦИЯ И УПРАВЛЕНИЕ НА ИНФОРМАЦИОННИТЕ РЕСУРСИ"

Международна конференция
София, 12 ноември 2008 г.

Приветствие на г-н Георги Пирински
Председател на Народното събрание на Република България

Уважаеми дами и господа,

Доброто управление на информационните ресурси в ерата на глобализацията е не просто желателно, а жизнено необходимо. Навярно малцина ще оспорят тази теза. Въпросът обаче е това разбиране на практика да стане основно начало в работата на основните структури на управление и сфери на обществения живот.

Дейността на парламента е една от областите, където особено ясно може да се види ключовото значение, което придобиват информационните масиви и тяхното добро оползотворяван. В днешния глобален свят гражданите живеят в медийната и информационна среда на световния интернет, формират мироглед и съзнание под влиянието на масивни потоци на съобщения и внушения.

В днешните реалности представителната демокрация се изправя пред непознато досега предизвикателство. Парламентарните институции са призвани да реализират очакванията на гражданите чрез отговорен и прозрачен законодателен процес и парламентарен контрол, като същевременно са подложени на ежеминутен критичен медиен интерес, често предпочитащ битовите аспекти на парламентарната дейност.

В тези реалности парламенти и парламентаристи трудно защитават авторитета на законодателните институции, само частично успяват да представят на обществото същината на своята работа. Разбира се, като цяло незадоволителното функциониране на парламентите очевидно се дължи и на проявите на корупция, безотговорност и откъсване от избирателите.

Именно затова информационните ресурси придобиват такава жизненоважна роля не просто за парламентарните институции, а за цялостния живот на държавите и обществата. Това значение се разкрива по няколко линии, като например:

• Първо – изработването и приемането на добри закони днес изисква привличането на масивни информационни ресурси. На етапа на формиране на концепцията и проекта на закона е нужно да се отчетат както широк спектър валидни международни норми, значими прецеденти и сходен нормативен опит, така и достатъчно данни за реалната необходимост и очакваните параметри в обществото за нужната норма. Особено значение при това придобива привличането на неправителствения сектор за мнения, становища и за пряко участие в обсъжданията на проектозаконите. Освен това при приемането на дадения акт вече става наложително да е налице компетентна оценка за въздействието на закона – както финансовите последици, така и отражението му върху съответните сфери на живота;

• Второ – наред със законодателството, днешните парламенти са призвани да издигнат на ново равнище функциите на контрол и мониторинг за прилагането на приетите закони и за функционирането на изпълнителната власт. Това изискване не само поставя по нов начин процедурата на парламентарния контрол чрез въпроси и отговори,

но и поражда необходимостта от множество нови форми на текущ мониторинг и отчетност за функционирането както на основните ресори на правителството, така и на нарастващия брой публични агенции и институции с регулиращи и управленски функции. В това направление неправителственият сектор също предявява своите очаквания и претенции достатъчно настоятелно;

• Трето – поначало парламентарните институции обективно придобиват по-различно място и роля в цялостния живот на съвременните общества и държави. В реалностите на глобализацията те вече не могат да останат затворени в класическите си функции на приемане на закони и на парламентарен контрол. На практика те са призвани да се превърнат в държавно – обществени форуми, в които гражданите да чувстват прякото си участие в управлението на своята държава; да имат възможност осезаемо да влияят върху нормите, които регулират ежедневието им. Т.е., за добро качество на живота, за сплотено и жизнено общество са нужни парламентарни институции, които успешно съчетават две трудно съжителстващи начала – високия професионализъм и задълбочената специализирана работа в сферата на законодателството, на конституирането и контролирането на институции с прекия достъп на широки слоеве на обществото до парламентарната дейност, с изискванията за прозрачност и откритост.

За успешното решаване и на трите групи предизвикателства е необходимо не просто по-добро управление на информацията, а всъщност ново качество и ефективност на генерирането, систематизирането и оползотворяването на огромни по обхват информационни масиви и насочването им към многохилядни потребители и адресати.

Ето защо и за информационното предизвикателство пред днешните парламенти са от пряко и жизнено важно значение всички основни теми на международната конференция „София, 2008: Глобализация и управление на информационните ресурси":

- организация, класификация и издирване в уеб пространството;

- информационна индустрия и управление на знанието;

- информационна грамотност и учене през целия живот;

- дигитални и виртуални библиотеки.

Затова от парламентарно гледище са достойни за висока оценка и подкрепа усилията на организаторите на конференцията: Департаментът по библиотечен и информационен мениджмънт към Държавния университет Емпория, САЩ, Катедрата по библиотекознание, научна информация и културна политика при Софийския университет „Св. Климент Охридски", Народна библиотека „Св. Св. Кирил и Методий" и Съюзът на библиотечните и информационни работници. Радостно е също, че София се превръща в традиционно средище за ежегодни срещи по жизненоважната проблематика на информатиката и информационното общество за живота ни в глобалната ера.

The Vatican Library: Between Past and Future

Cesare Pasini

Vatican Library

(Text from speech given on 12 November 2008)

The Vatican Library, as it moves from the past to the future, reveals itself in its anomalous "today." The purpose of a library is to receive scholars and promote research. Instead, we have been forced to close for a period of three years (starting in the autumn of 2007) because of building works that could not be postponed. The books remain in storage even though we are trying as much as possible to furnish reproductions of manuscripts or other materials to those who request them. A library, moreover, is a meeting place, a visible symbol of that collaboration through which the mature fruits of research can be obtained: this too is temporarily impossible, though by updating the Library's website and sending out a newsletter on a regular basis we try first of all to maintain contact with scholars and secondly to avoid their being isolated from each other during this period.

However, I would also like to use this situation as an opportunity for reflection: much like when some extraordinary event in a family compels it to pause for reflection, it becomes an occasion to finally look one another in the eye, share experiences and recall the memory of those who came before us, so as to rediscover roots, to better define our own ideals and projects, and to plan as carefully as possible our own future.

As a result, I am very happy with the title which was proposed to me: *The Vatican Library: Between Past and Future*. The *past* will be the first and main object of my inquiry. More specifically, I intend to examine the past represented by the origins of the Library, origins which not only opened a long sequence of years and centuries running from the middle of the fifteenth century down to the present day, but which in fact manifest certain features which have positively characterized the Vatican Library and continue to do so today. We thus come to speak of the birth of the Vatican Library, and of Nicholas V, Tommaso Parentucelli, Pope from 1447 to 1455, who was its founder.

THE PAST

1. In reality, the Vatican Library represents the last link in the long chain of pontifical libraries, known to us from many documents covering Late Antiquity, the Middle Ages and the Modern Age. This remarkable continuity is an important element not only for the effective transmission of religious, spiritual, or theological texts, but also for the constant and decisive presence of the papacy in the cultural life of Europe during the Middle Ages and Renaissance.

But it was with Nicholas V, exactly in the middle of the fifteenth century, that the specific institution that today we call the Vatican Library began. With remarkable continuity, it has remained active down to the present day; and, despite evident and obvious dynamics of change, it has constantly enriched itself through its historical development. It is worth remembering that, among those European libraries which are still active today, the Vatican Library is one of the most long-lived. In addition, thanks to its close link to the figures of the Popes, it has constantly maintained its pre-eminent position and continued to make its own original contributions to the cultural development of the West. To be sure, its purpose and its interests have gradually changed; but it has always been drawn back to the constitutive idea which we find in the original choices made by its founder.

Indeed, Pope Nicholas V, thanks to his most remarkable cultural preparation as both a theologian and humanist, worked with great energy and zeal to collect volumes and to prepare

the original collection of the Library, which in a very few years came to include over 1200 volumes: a very notable figure for the times, corresponding to many thousands of texts, in various disciplines, an admirable enterprise both because of the brief span of time in which it was accomplished (his pontificate was only eight years long) and because of the active collaboration of many scholars of the time, with whom Pope Parentucelli shared his humanistic interests. A century earlier, even in a time of intense book trade, it took almost twenty years, from Clement V to John XXII, for the papal library at Avignon to amass a similar number of volumes. Moreover, the library of a century earlier never achieved a variety of cultural interests and disciplines comparable to those of the Vatican Library of Nicholas V; above all, the earlier library remained essentially an institutional structure, born with the sole goal of service to the officials of the curia and to the interests of the pontiffs.

It was precisely as a result of the humanistic movement, of which Nicholas V was part, that an institution of this calibre started up again in Rome after a long period during which the Popes were absent from their See. This work must be seen in the context of the desire of the Pontiff to take on and give new vigour, also from a theoretical point of view, to the entire tradition of studies and reflection that connects the Holy See to the Rome of the Ancient Empire as well as with the Rome of the first witnesses of the Church of Peter and Paul. Nicholas V, in fact, extended his studies both to ancient pagan Rome and Christian Rome, as is apparent from his own notes found in many of the volumes that constitute the original nucleus of the Library and most of which are still kept in the oldest collections of the contemporary Vatican Library.

2. One of the distinguishing characteristics of this new collection is the massive presence not only of Latin manuscripts, but also of Greek ones, the latter constituting a third of the entire collection: 414 volumes out of 1238 (the Latin therefore being 824), all documented in an inventory compiled at the time of Nicholas V's death in 1455. The Pope, who appears to have had a modest knowledge of the Greek language, consulted both Western and Eastern scholars, the most notable being Giovanni Tortelli, who was among the first competent Greek specialists of the humanistic Western world: as a theologian himself and personal friend of the pontiff, he became his close collaborator, receiving the task of managing the new collection, especially in what was its most ground-breaking section, the Greek one. A rich series of autograph letters, kept in the original collection of the Vatican Library, documents the research work of the librarian Tortelli: work that emerges from the manuscripts that has come down to us from the origins of the Library.

3. Moreover, the need for a bilingual pontifical library, Latin and Greek, was born in a particular cultural period, namely the humanistic one, but also in a particular condition of the life of the Church at that time. The humanists, since Petrarch, had opened their horizons to include all of antiquity, both classical and Christian. However, up until the end of the fourteenth century, there were really very few people in the Western world who knew Greek so as to be able to use it in reading and studying. However, from the early fifteenth century onwards, they were deeply involved in the study of the Greek and Eastern languages and cultures, referring back directly to the original texts. The re-birth of Greek studies in the Western world involved all the disciplines: those more known to the greater public as well as the more strictly theological ones. Indeed, interest in Greco-Byzantine Patristics, which had been little known throughout the Western Middle Ages, experienced a renaissance, which however depended entirely on Late Antique translations. An exemplary case is the resumption, among the humanists of the Renaissance, of the study of such an important Church Father as John Chrysostom. Interest in the Biblical text in its original languages also experienced a renaissance, thanks to the arrival in the West of important witnesses which until then had been kept in the East. Foremost among these is Codex B, which is attested in the Vatican Library at least since 1475.

These interests are also part of the ongoing exchange between the two Churches, the Latin one and the Greek one, which developed during the early 1400's: the Latin Church at-

tempting to rescue the Greek Church with all that remained of the Byzantine Empire, threatened by the unfortunately unrelenting advance of the Turks. This exchange, which took place in many areas and also at an institutional level, culminated in the council of Ferrara-Florence of 1438-1439, though it was preceded by many ecclesiastical, political and cultural contacts. As is commonly known, the process did not lead to actual unity, perhaps because this was conceived at the time in too juridical a manner, partly due to the fact that the ecclesiastical communities felt that they were neither truly involved in the process of union, nor fully represented by those who had adhered to the project. But this wave of events and discussions was certainly favourable to exchanges and to the opening up of mutual trust and interest. Nicholas V himself had participated directly in the council for union, before being elected pontiff, making an important and original contribution; and, when he became Pope, he wanted to gather in Rome the spiritual and cultural heritage of both Churches. This is certainly one of the reasons why he collected such a large number of Byzantine Greek texts and manuscripts. He thought of himself as Pope of a Church which, in his mind, had found a certain unity.

4. But which library, and which "Greek culture," came to Italy and in particular to the Vatican Library, at that time? Certainly not classical culture as such, but rather the Greek that was still current and very much alive in the Byzantine world, a world which rightly considered itself to be heir of the classical Greece. Indeed, this is another very original aspect of these exchanges: the Latinized Westerners went directly to Byzantium to study Greek at the learned schools which used a language not that different from the ancient one and which continued to learn from the Classical and Christian cornerstones of the past. Tortelli himself spent a period of linguistic and cultural study in Byzantium in the 1430's, bearing a pontifical laissez-passer from the predecessor of Nicholas V, Eugene IV, in which Tortelli's intention of pursuing his studies in Constantinople was specifically mentioned. Similarly, the Greek section of the Vatican Library of Nicholas V had all the characteristics of a Byzantine-style library.

We find there a *classical* and "*imperial*" section including the works of preserved ancient authors such as Herodotus, Polybius, Thucydides, Xenophon, Plutarch, Plato and Aristotle, as well as the riches of the Byzantine chroniclers of whom the original collection of the Vatican Library includes some important witnesses.

The section which we may call "*patriarchal*" is very broad, with many sacred and theological writings. Naturally this is the most numerous and varied group, including Biblical books and commentaries; the collections of Councils and of Greek Church Fathers such as John Chrystostom, Basil the Great, Gregory of Nazianzus and Gregory of Nissa, Ephrem the Syrian, John Climacus, and finally the palamitic and antipalamitic texts of the fourteenth century.

There is also a *scholarly* section, including grammatical, rhetorical, and poetical works: besides the orators, Libanius and Demosthenes in particular, and the classics, from whom the Byzantines learned Greek, such as Homer, Pindar, the ancient lyricists and tragedians, we find here also the grammatical collections and language learning materials which are typical of Byzantine schools.

The *liturgical* and *hagiographic* sections were very large, including the texts of the Byzantine liturgy and the great hagiographic collections, in particular the one which is attributed to Symeon Metaphrastes.

Finally, the *mathematical* section is adequately represented with Theon of Alexandria and a choice of customary texts of this type.

For many of these writings, which were largely unknown in the West and were here gathered together for the first time by a Westerner, new translations were prepared by direct order of the Pope. He entrusted this task to bilingual Latin humanists, including Lorenzo Valla and Poggio Bracciolini, putting at their disposal the originals of the new collection and generously subsidizing the work.

5. Nicholas V also expressed the main juridical foundations of this new institution in a document, a papal brief published on April 30, 1451. It is a letter of appointment given to Enoch of Ascoli, one of the trustees that the Pope had sent to both the West and East to collect books for the new library. When the letter was written, the foundation of the library had already been completed: this is clearly indicated by the opening words, *Iamdiu decrevimus,* which report a decision that had been already made. The sentence goes on to mention the two-fold goal of the institution, to serve the Holy See and be open to scholars, as well as the Greek and Latin "bilingualism," which was an intended feature of the institution from the start. Indeed, the Pope writes, «We made the decision some time ago already, and we are making every effort to ensure that, for the benefit and the common interest of scholars (*pro communi doctorum virorum commodo*), we may have a library of Latin and Greek texts (*habeamus librorum omnium tum latinorum tum graecorum bibliothecam*) which befits the authority of the Pontiff and of the Apostolic See. We now possess the greater part of every kind of writings which are in circulation. However, many ancient texts are missing, having been lost due to the negligence of the times which preceded us; and for this reason we send our collaborator with the mission of researching and transcribing books of any kind which may be found».

When Tommaso Parentucelli was still in Florence in the service of Cosimo de' Medici, he had composed, on invitation from the Duke, a bibliographical *Canon*, that is, a list of books divided by subjects on which the constitution of a library could be based. This *Canon*, covering all the "faculties", that is, the groups of disciplines which articulate the collective knowledge of a University, constituted something like a project for a universal library; and it is precisely this project which inspired Nicholas V, once he became Pope, in creating the new library which we are discussing and which was the original Vatican Library. A distinctive mark of this universality was the bilingual nature, Latin and Greek, of this new library.

But it is clear that behind all this was the experience of encounter and exchange between the Greek and Latin worlds, between the Greek Church and the Latin Church, whose most notable result was the increased reciprocal awareness of the two Churches and an openness to trust and dialogue. The result was not the hoped-for union; but the road taken at that time stimulated the opening of a channel, which incidentally was also highly beneficial to the West, offering a better awareness of the riches of a very elevated spiritual and cultural tradition. Starting with the Greek world, the West was soon to open itself also to all the East; and a remarkably early witness to this is the Vatican Library itself, which already had a collection of Hebrew, Arabic, and Syriac books by the end of the fifteenth century. It was, to be sure, a fundamentally "bookish" knowledge, based on books and written pages; but, as in the case of the Greek heritage transmitted through the Byzantines, it was drawn from living and direct sources.

STILL ON THE WAY

On the basis of the preceding enquiry we may now choose, among the various features found in the library created by Nicholas V, some particularly characteristic and significant ones which are likely to surface again in the development of the Vatican Library through the centuries; and which, more importantly, remain an inspiration for its future.

1. The first aspect is that of the Library as an institution which aims to remain accessible and open, with its books and with all the requested services, to any person who wishes to pursue knowledge, to study, and to research: a library which, as stated in the papal brief of 1451, is precisely *communi doctorum virorum commodo* (for the benefit and the common interest of scholars) or, as Pope Benedict XVI expressed it in his visit on June 25, 2007, is «a welcoming house of knowledge, culture and humanity, which opens its doors to scholars from every part of the world, irrespective of their origin, religion or culture», preserving «the synthesis between culture and faith which transpires from the valuable documents and treasures in

your custody, from the walls that surround you, from the Museums near you and from the splendid, luminous Basilica which can be seen from your windows».

Having only recently come to work at the Vatican Library, I still feel sufficiently an outsider to be able to report without excessive danger of self-exaltation the views of the many who appreciate the climate of service and the tradition of quality which they have found and experienced in the Vatican Library. I understand that, in these kinds of things, nothing is ever acquired once and for all: we will need to confirm this approach and proceed along the same lines in the future. Moreover, it is not simply a matter of refining one's own attitude. It is clearly necessary to ponder and carefully update all the instruments with which to better support, help, and facilitate the research of the scholars.

For example, after various and positive pilot projects tested in the last years, the time has now nearly come for planning an all-encompassing digital reproduction project for the manuscripts and the other most significant materials, so that we can better preserve and still make adequately available all of these treasures which we have received and which we keep for the benefit of humanity. This is certainly not a simple undertaking, because it involves serious questions of a technical, juridical and financial nature. However, it is a service which until yesterday was unthinkable, and today can hardly be deferred any longer.

As a second example, the work of conservation which deals directly with the original objects and specifically unfolds in the work of restoration must continue and be further developed. In this connection, one cannot help but notice that the restoration laboratory is one of the most heavily staffed offices in the Vatican Library; and this is a good opportunity to mention the generous assistance that certain public and private institutions have provided for restoration works. However, it remains a daunting task, one to be faced with more than a little courage, calling on our already acquired reserves of experience and working together to acquire the expertise which new situations require.

To take a final example from another area, regarding an initiative which is already fully planned and is not far from being realized, increasing the number of books available on open shelves is an extremely important endeavour, and one which is most welcome to the readers of a library. One can understand that the Vatican Library, located as it is in centuries-old buildings and in such a tiny country, does not have easy solutions to this problem. However, plans have now been made to use again for this purpose the *Salone Sistino*, the great and splendid hall which hosted the Vatican Library from the pontificate of Sixtus V, at the end of the sixteenth century, until the pontificate of Leo XIII, at the end of the nineteenth century. The *Salone* brings together fullness of space and artistic beauty: we hope to be able to adequately prepare it and be able to use it, if not for the reopening of the library in 2010, at least not too long after that.

2. The second characteristic which has defined the Vatican Library since its origins is its humanistic character. It is, indeed, a collection that was born from the humanistic experience of Pope Parentucelli and from the group of humanists who surrounded him, starting with the first librarian, Tortelli. This fact not only determined the types of volumes which were collected to form the original Vatican Library, but it has become – today more than ever – a reminder and an impulse towards a specific method of research and a certain range of contents.

The Vatican Library is thus called, by its very nature as a treasure chest of texts and sources, both ancient and modern, to promote and support with complete conviction and approval any serious and informed research undertaking which has the healthy patience to adequately refer back to the sources, to verify data, to compare texts, to research and document its statements. It is a humble service; but one which we believe is essential for those who search for truths which can never be understood in a hurried manner, or through catchy phrases, or by force, but only through that kind of inquiry which has Humanism, with its philological preci-

sion and its careful and accurate research, as its undisputed master. As far as contents are concerned, the humanistic tradition, which stands at the origins of the Vatican Library and whose products formed the original nucleus of its collection, gives the Library a still greater impulse, today and for the future, to foster and support further enquiry into themes concerning man, his rationality, his spiritual reality and his dignity. Humanism arose as an auspicious moment of common recognition of the dignity of man in all his spiritual richness, and this is a perspective which is particularly precious today: one could even say that it is fundamental for the future of humanity. In this sense, rendering service to those who pursue "humanistic" research with sensitivity and with the already mentioned philological rigour, is not a small task which is entrusted to the Vatican Library of today and of tomorrow.

3. A final aspect that we discover in the Vatican Library of Nicholas V is its universal or, if you wish, ecumenical spirit: Pope Parentucelli's goal was, precisely, a "universal library", one which would cover the different disciplines in which knowledge is articulated and which would itself be articulated along the double axis of Latin and Greek (as well as the third, Eastern axis, which was logically added in the expansion that was accomplished in the following decades.)

This universal and ecumenical spirit, which was already present in the education of Tommaso Parentucelli and in his experience at the Council of Ferrara-Florence, and was also nurtured in those times through contacts and dialogue between the West and the East, marks and sustains the development of the Vatican Library through the centuries. In fact, it sustains and defines every culture worthy of the name, considering that culture, by its nature, favours a spirit of universality and encounter. The Vatican Library, as I mentioned earlier using the words of Pope Benedict XVI, is meant to be «a welcoming house of knowledge, culture, and humanity, which opens its doors to scholars from every part of the world, irrespective of their origin, religion or culture». But more than ever, thanks to the ease with which geographical distances are now overcome, allowing encounters between persons and institutions from distant and disparate contexts, and thanks above all to its special role as Library of the Popes and of the Holy See in their relationship with other religious and civil institutions, the Vatican Library of the present and future is called upon to pursue collaboration and cultural understanding with institutions from every corner of the world. Together, they reveal the universality of authentic knowledge and the virtually unlimited potential for understanding and collaboration that every appropriate cultural expression provides. This is the mission that Nicholas V's farsightedness has entrusted to us and which we hope to continue to accomplish with gratitude.

Ватиканската библиотека:
Между миналото и бъдещето

Публична лекция на
Монсиньор Чезаре Пазини,
Префект на Ватиканската библиотека

София, 12 ноември, 2008
Аулата на Софийския университет "Св. Климент Охридски"

Днес Ватиканската библиотека работи при особено трудни условия. Задачата на една библиотека е да приема учени и да ги подпомага в научната им дейност. Вместо това, ние сме принудени да затворим библиотеката за три години (от началото на есента на 2007 г.) поради неотложни строителни работи. Книгите останаха в хранилищата, въпреки усилията ни, доколкото е възможно, да предоставяме копия на ръкописи или други материали на онези, които ги поръчват. От друга страна, една библиотека е и място на срещи, обозрим символ на онова сътрудничество, от което се постигат зрелите плодове на научната работа. Това също е временно непостижимо, макар че чрез осъвременяване на сайта на библиотеката и редовно изпращане на бюлетин, ние се опитваме най-вече да поддържаме връзка с учените, както и да избегнем невъзможността за връзки между тях през това време.

И въпреки това, бих искал да се възползвам от това положение, защото то ми предлага възможност за размисъл, така както едно необичайно събитие в семейството му позволява да спре, за да размисли. То дава повод най-сетне всеки да погледне открито в очите на другия, да сподели опита си и да си спомни за онези преди нас, за да преоткрием корените си и да можем по-добре да изразим идеалите си и колкото се може по-внимателно да формулираме проектите, свързани с бъдещето ни.

Затова заглавието, което ми беше предложено много ми се понрави: *Ватиканската библиотека: Между миналото и бъдещето. Миналото* ще бъде първата и основна тема на моето проучване. Възнамерявам по-конкретно да изследвам периода на създаване на библиотеката, който е не само начало на дълъг период от години и векове от средата на пети век до днес, но и свидетелство за някои характерни особености на Ватиканската библиотека, които са валидни и сега. Така стигаме до въпроса за раждането на Ватиканската библиотека и нейния създател папа Николай V, Томазо Парентучели, папа от 1447 до 1455 година.

I. МИНАЛОТО

1. Всъщност Ватиканската библиотека представлява една дълга поредица от папски библиотеки, известни ни от множество документи, които обхващат периода на късната античност, средните векове и съвременната епоха. Тази забележителна приемственост е важен елемент, който не само позволява ефективното предаване на религиозни, духовни или богословски текстове, но и осигурява непрекъснатото и решаващо присъствие на папската институция в културния живот на Европа през средните векове и Възраждането.

Именно папа Николай V, точно в средата на петнадесети век е създал специфичната институция, позната ни днес като Ватиканската библиотека. Тя е продължила дейността си до днес със забележителна приемственост и въпреки очевидната динамика на промените, се е обогатила в хода на развитието си през историята. Заслужава да се от-

бележи, че измежду библиотеките в Европа, които продължат своята дейност днес, Ватиканската е една от библиотеките с най-дълга традиция. Освен това, благодарение на близките си връзки с папите, тя винаги е запазвала водещото си положение и продължава своя оригинален принос в културното развитие на Запада. Несъмнено, нейните задачи и сфери на интереси постепенно са се изменили, но тя неизменно се връща към замисъла, който откриваме в първоначалния подбор на нейния създател.

Впрочем, папа Николай V, благодарение на изключителната си подготовка на богослов и хуманист, е работил енергично и ревностно да събира книги и изгражда първоначалната колекция на библиотеката, която само за няколко години е достигнала до повече от 1200 тома. За онова време това е значителен брой книги, съдържащи хиляди текстове от различни области. Това е достойно дело, както поради краткия период, за който е осъществено (неговият понтификат е продължил само осем години), така и заради активното сътрудничество с много учени от неговото време, с които папа Парентучели споделял своите интереси като хуманист. Един век преди това, дори през един период на интензивен обмен на книги, от времето на папа Климент V до папа Йоан XXII, за да може папската библиотека в Авиньон да натрупа подобно количество томове са били необходими почти двадесет години. Нещо повече, в сравнение с Ватиканската библиотека на папа Николай V, библиотеката от преди един век не е успяла да постигне такова разнообразие на културни интереси и области. Предишната библиотека си останала най-вече структура в рамките на една институция, създадена, за да обслужва служителите на курията и да отговаря на интересите на папите.

Институция от такова значение възобновява работата си в Рим след продължителен период на отсъствие на папите от техния диоцез именно в резултат на движението на хуманизма, чийто преставител е папа Николай V. Това дело трябва да се разглежда в контекста на неговото желание да подеме и през призмата на нови теоретични постановки да вдъхне живот на традицията на изследвания и размисли, която свързва Светия престол с Рим на Римската империя и с Рим на първите християнски свидетелства на апостолите Петър и Павел. Всъщност, както е видно от собствените му бележки, намерени в много от томовете на първоначалната основна колекция на библиотеката, запазени и до днес в съвременната Ватиканска библиотека, папа Николай V е изучавал Рим както от езическата, така и от християнската епоха.

2. Една от най-важните характеристики на тази нова колекция е значителното присъствие не само на латински, но и на гръцки ръкописи – последните представляват една трета от цялата колекция: 414 от 1238 тома (следователно броят на латинските е 824), всичките документирани в инвентарен списък, съставен при смъртта на папа Николай V през 1455 г. Папата, който е имал средни познания по гръцки, се консултирал както със западни учени, така и с учени от Изтока. Най-изтъкнат между тях е бил Джовани Тортели, един от първите най-компетентни грецисти сред хуманистите на запад. Самият той е бил личен приятел на папата и като близък негов съратник бил назначен за уредник на новата колекция, особено във връзка с най-важната ѝ част – гръцките ръкописи. Цяла поредица от саморъчно написани писма, които се пазят в сбирките на Ватикана, документират изследователската работа на библиотекаря Тортели. Тази дейност личи от запазените до днес ръкописи.

3. Нещо повече, нуждата от папска библиотека на два езика – латински и гръцки – е изникнала в един определен период от развитието на културата – епохата на хуманизма, но едновременно с това се свързва и с определени условия в живота на църквата по това време. Още от времето на Петрарка хуманистите са разширили хоризонтите си, обхващайки както класическата, така и християнската древност. Но до края на четиринадесети век малцина на запад са знаели гръцки дотолкова, че да са в състояние да четат и изучават ръкописи. От началото на петнадесети век обаче, учените навлизат дълбоко в изучаването на гръцки и латински език и култура и се връщат към използва-

нето на оригинални текстове. Възраждането на грецистиката на запад включва всички дисциплини – както познатите на широката публика, така и строго богословската тематика. Впрочем, интересът към слабо познатата през средните векове на запад гръко-византийска патристика преживява ренесанс, който стъпва изцяло върху преводи от късната античност. Пример за това е подновеното изучаване на трудовете на един толкова значим църковен отец като Йоан Златоуст от хуманистите на Възраждането. Благодарение на появата на важни свидетели, които дотогава са оставали на изток, се възражда и интересът към библейския текст на оригинални езици. Преди всичко това е Кодекс В, за чието присъствие във Ватиканската библиотека съществуват свидетелства още от 1475 г.

Тези интереси са също част от непрекъснатия обмен между двете църкви, латинската и гръцката, който се развива в началото на XV век. Латинската църква прави опит да спаси Гръцката църква, заедно с онова, което е останало от Византийската империя, застрашена за нещастие от неумолимия натиск на турците.

Този обмен, макар и предшестван от многобройни църковни, политически и културни контакти и осъществен в много области, включително и на институционално равнище, достига своя връх на събора във Ферара-Флоренция от 1438-1439 г. Както е общоизвестно, този процес не е довел до същинско единство, може би защото на времето е бил замислен най-вече с юридически средства, което донякъде се дължи на убеждението на църковните общности, че те нито са истински ангажирани в процеса на обединение, нито са изцяло представлявани от реализаторите на този проект. Но този изблик на събития и дискусии наистина е оказал благотворно влияние върху обмена и установяването на взаимно доверие и интерес. Самият Николай V, преди да бъде избран за папа, участва пряко в Събора за уния с важен и оригинален принос и когато става папа се стреми да събере в Рим духовното и културното наследство на двете църкви. Несъмнено, това е била една от причините да събира голям брой византийски гръцки текстове и ръкописи. Той се виждал папа на една църква, която, в неговите представи, била постигнала известно единство.

4. Но каква библиотека и каква „гръцка култура” е пренесена в Италия и по-специално във Ватиканската библиотека по това време? Несъмнено не самата класическа култура, а по-скоро живият гръцки език, общоприет във византийския свят, който с основание се е считал за приемник на класическа Гърция. Това наистина е един друг, твърде оригинален аспект на тези обмени. Западните учени, които говорели на латински, се отправяли към Византия, за да изучават гръцки в научните школи, служещи си с не много различен от древния език и продължаващи да черпят знания от основните класически и християнски съчинения. Самият Тортели през 30-те години на XV в. е прекарал известно време във Византия, за да изучава езика и културата, снабден от предшественика на Николай V, Евгений IV с папско писмо, в което изрично се споменава намерението му да се занимава в Константинопол с наука. По същите причини и гръцкият раздел на Ватиканската библиотека на Николай V е имал всички характеристики на една Византийска библиотека.

- Там намираме *класически* раздел и *„имперски”* раздел, които включват запазени произведения на Херодот, Полибий, Тукидид, Ксенофонт, Платон и Аристотел, както и съкровищата на византийските хронисти, чиито важни свидетелства са включени в първоначалната колекция на Ватиканската библиотека.

- Разделът, който можем да наречем *патриаршески*, е с голям обхват и съдържа много свещени книги и богословски съчинения. Естествено, това е най-многобройната и разнообразна колекция, която включва библейски книги и коментарии. Тук са събрани документи от църковните събори, произведения на отците на Църквата като Йоан Златоуст, Василий Велики, Григорий Назиянски и Григории от Ниса, Ефрем Сирийски,

Йоан Климак, и най-сетне текстове, свързани с Григорий Палама и с негови противници от 14 век.

- Съществува и *научен* раздел, който включва съчинения по граматика, реторика и поетически съчинения: освен ораторите Либании и особено Демостен и класиците като Омир, Пиндар и древните лирици и трагици, от които византийците са изучавали гръцки език, тук срещаме сборници с граматически съчинения и езикови учебни пособия, характерни за византийските училища.

- Разделите за литургическа и хагиографска литература са много големи и включват византийски богослужебни текстове и големи хагиографски сборници, един от които се приписва на Симеон Метафраст.

- Най-сетне, разделът по математика е добре представен със съчинения на Теон Александрийски и разнообразни подобни текстове.

Много от тези съчинения, дотогава неизвестни на запад, били събрани тук за пръв път от един западен учен. По изрично нареждане на папата били подготвени нови преводи. Тази задача била поверена на двуезични латински хуманисти, между които Лоренцо Вала и Поджио Брациолини, на които били предоставени оригинали от новата сбирка и били щедро възнаградени за труда си.

5. В едно папско писмо от 30 април 1451 г. папа Николай V документира и основните юридически постановки на тази нова институция. Това е писмо за назначаването на Енох от Асколи, един от легатите изпратени от папата, както на запад, така и на изток, за да събира книги за новата библиотека. Когато е писано писмото, основите на библиотеката вече са били поставени. Това е посочено ясно в началните думи: *Iamdiu decrevimus*, които изразяват вече взето решение. По-нататък в изречението се споменава двуяката цел на институцията - да служи на Светия престол и да бъде на разположение на учените, както и „двуезичието" на гръцки и латински, което е било в замисъла за институцията от самото начало. Всъщност папата пише: „ „Взехме решението преди известно време и правим всичко възможно да осигурим една библиотека от латински и гръцки текстове (*habeamus librorum omnium tum latinorum tum graecorum bibliothecam*) в полза и удобство на всички учени (*pro commini doctorum virorum commodo*), което отговаря на достойнството на папата и Светия престол. Днес притежаваме повечето от тези съчинения, които съществуват. Но много древни текстове са изчезнали, изгубени поради нехайството в миналото. По тази причина изпращаме нашия сътрудник с мисията да се издирят и препишат всички книги, които бъдат намерени".

Когато Томазо Парентучело все още бил във Флоренция на служба на Казимо де Медичи, по поръка на херцога той съставил един библиографски *Канон*, т.е. тематично подреден списък от книги, който да служи за съставяне на библиотека. Този *Канон*, който бил съставен от всички „факултети", т.е. групи от дисциплини, които изразяват колективното знание на един университет, е представлявал нещо като проект за една универсална библиотека. Именно този проект вдъхновил Николай V, щом бил избран за папа, да създаде новата библиотека, за която говорим и която е била първоначалната Ватиканска библиотека. Отличителен белег на тази универсалност на новата библиотека е нейната двуезичност - латински и гръцки език.

Очевидно е обаче, че зад всичко това стои опитът от срещите и обменът между латинския и гръцкия свят, между гръцката и латинската църкви, чийто най-забележителен резултат е била все по-голямата взаимна осведоменост на двете църкви и откритост към доверие и диалог. Желаният съюз не бил постигнат, но поетата тогава, полезна за запада посока била стимул за разкриването на канал за по-добро опознаване на богатствата на една извисена духовна и културна традиция. Започвайки с гръцкия свят, западът не след дълго се обърнал към Изтока като цяло. Свидетелство за началото на този про-

цес е самата Ватиканска библиотека, която още в края на петнадесети век вече притежавала колекция от еврейски, арабски и сирийски книги. Несъмнено, това познание по същността си било „книжно", но въпреки това, подобно на гръцкото културно наследство, което било предадено чрез византийците, тези знания са стъпили на живи и преки източници.

II. ПО НАЧЕРТАНИЯ ПЪТ

На основата на събраните сведения сега можем да изберем онези характерни и значими особености на създадената от папа Николай V библиотека, които вероятно са се появили отново в процеса на развитие на Ватиканската библиотека през вековете и, което е още по-важно, които ще бъдат нейно вдъхновение в бъдеще.

1. Първият аспект е обстоятелството, че тази библиотека представлява една институция, която с книгите си и с всички услуги поискани от нея, се стреми да остане достъпна и открита за всеки, който търси познание, който желае да учи и да се занимава с научна дейност. Това е библиотека, която, както се казва в папското писмо от 1451 г. работи *pro commini doctorum virorum commodo* (за ползата и общите интереси на учените) или по думите на папа Бенедикт XVI при посещението му в библиотеката на 25 юни 2007, тя е „гостоприемен дом на познанието, културата и човечността, който разтваря вратите си пред учените от цял свят, независимо от произхода, религията или културата им" като запазва „синтеза между култура и вяра, който се излъчва от поверените ви за пазене ценни документи и съкровища, от заобикалящите ви стени, от близките музеи и от великолепната светла базилика, която се вижда от вашите прозорци".

Едва отскоро работя във Ватиканската библиотека. Донякъде все още се чувствам като външен човек, за да мога да предам, без опасение от прекомерно превъзнасяне, гледищата на мнозина, които оценяват високо климата в обслужването и традицията на качествена работа във Ватиканската библиотека. Съзнавам, че това не се появява внезапно и не се запазва завинаги. Необходимо е в бъдеще този подход да се потвърждава и да се отстоява. И това не се свежда само до усъвършенстване на собственото ни поведение. Ясно е, че трябва да се оценят и внимателно да се осъвременят всички инструменти, с които се осигурява подкрепа, подпомагане и улесняване на изследователската дейност на учените.

Например, след разнообразни и успешни пилотни проекти, преминали изпитване през последните години, вече е наближил моментът за планирането на един всеобхватен проект за дигитализиране на ръкописите и други по-значими материали, които сме получили и съхраняваме за човечеството, за да можем да запазим тези съкровища по-добре и ги направим адекватно достъпни. Задачата не е проста, защото повдига сериозни технически, правни и финансови въпроси. До вчера тази услуга бе немислима, а днес повече не може да се отлага.

Като друг пример може да се посочи консервационната дейност, която засяга пряко оригинални паметници и конкретно се разгръща в работата по реставрацията. Тя следва да продължава и да се развива по-нататък. В тази връзка не мога да не отбележа, че лабораторията за реставрация е отделът с най-многоброен персонал във Ватиканската библиотека. Тук е мястото да спомена щедрата помощ, която някои обществени и частни институции предоставят за реставрационна дейност. И все пак тази задача все още предизвиква опасения. Към нея трябва да пристъпим с дръзновение, като се облегнем на натрупания досега опит и работим съвместно, за да постигнем познанията, необходими в новите ситуации.

Последният пример се отнася до различна област и е свързан с една инициатива, чието планиране вече е завършено и реализацията й предстои. Тя се състои в увелича-

ването на броя на книгите на свободен достъп и е много важно усилие, което се посреща с одобрение от читателите на библиотеката. Разбираемо е, че Ватиканската библиотека, която е разположена в старите си вековни сгради и в толкова малка държава, не може лесно да реши този проблем. Подготвят се планове обаче за нуждите на библиотеката отново да се използва *Salone sistino,* обширната и великолепна зала, в която се е съхранявала Ватиканската библиотека от понтификата на папа Секст VI в края на XVI век, до понтификата на папа Лъв XIII, на края на XIX век. *Salone sistino* съчетава чувството за простор и красота. Надяваме да успеем да я подготвим и да можем да я използваме, ако не през 2010, когато библиотеката отново ще отвори врати, то поне скоро след това.

2. Още от времето на създаването си, Ватиканската библиотека е известна и с нейния хуманистичен дух. Това е една библиотека, родена от разбирането на хуманизма от папа Парентучели и групата хуманисти около него, като се започне с първия библиотекар, Тортели. Това обстоятелство не само е определило вида на томовете, събрани за първоначалната Ватиканска библиотека, но и днес, повече от всякога, ни напомня и подтиква към специфичен метод на изследване и определен съдържателен обхват.

Така, чрез своята същност на съкровищница на стари и съвременни текстове и извори, Ватиканската библиотека е призвана да окуражава и подпомага всяко сериозно и задълбочено изследване, което проучва и документира заключенията си като търпеливо, трезво и адекватно се обръща към изворите, проверява данните и сравнява текстове. Задачата е скромна, но ние вярваме, че тя е съществена за онези, които търсят такъв вид истини, които никога не могат да се проумеят било забързано или лековато, било със сила. Разкриването на тези истини се постига само с присъщото на хуманизма научно дирене, което се отличава с филологическа прецизност и внимателно и точно проучване. Що се отнася до съдържанието, традицията на хуманизма, която лежи в основата на Ватиканската библиотека и резултат от която е първоначалното ядро на нейната колекция, представлява още по-силен импулс за библиотеката, както днес, така и в бъдеще, да насърчава и подпомага по-нататъшното изследване на теми, свързани с човека, неговата рационалност, духовност и достойнство. Хуманизмът възниква като един светъл момент, когато се осъзнава достойнството на човека в цялото му духовно богатство и това е една перспектива, която е особено важна днес. Дори би могло да се каже, че тя има фундаментално значение за бъдещето на човечеството. В този смисъл, да се подпомагат онези, които са се посветили на изследвания в областта на хуманизма с чувствителност и, както вече казахме, с филологическо усърдие, е нелека задача, поверена на Ватиканската библиотека днес и в утрешния ден.

3. Последният аспект, който откриваме във Ватиканската библиотека на папа Николай V, е нейният универсален или ако щете, икуменически дух. Конкретната цел на папа Парентучели е била създаването на „универсална библиотека", която е трябвало да включва различните области, в които намира място познанието, представено в двойната ос на латински и гръцки (наред с третата, източна ос, която е била добавена логично в процеса на последвалото през следващите десетилетия разширение).

Този универсален и икуменически дух, който произхожда от образованието на Томазо Парентучели и от опита му от събора във Ферара-Флоренция, подсилен от контактите му и от диалога между Запада и Изтока, оставя траен отпечатък в развитието на Ватиканската библиотека през вековете. Всъщност той определя трайно всяка култура, достойна за това име, тъй като по своето естество културата предразполага към дух на общуване. Както вече споменах, използвайки думите на папа Бенедикт XVI, Ватиканската библиотека е замислена да бъде „гостоприемен дом на познанието, културата и човечността, който разтваря вратите си за учените от цял свят, независимо от произхода, религията или културата им". Но, благодарение на лекотата, с която днес се преодоляват географски разстояния и която позволява да се срещат хора и институции от далечни и коренно различни среди и най-вече заради нейната особена роля като биб-

лиотека на папите и на Светия престол в отношенията им с други религиозни и граждански институции, Ватиканската библиотека днес и в бъдеще е призвана да работи за сътрудничество и културно разбирателство с институции от цял свят.

Заедно те откриват универсалността на автентичното познание и буквално неограничения потенциал за разбирателство и сътрудничество, присъщ на всяка културна проява. Това е мисията, поверена ни от прозорливостта на папа Николай V, която ние се надяваме да продължаваме да изпълняваме с благодарност.

Information Literacy Policies in Europe:
A Framework for Analysis

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Европейски политики за информационна грамотност:
Структура за анализ

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ABSTRACT

The paper articulates the Information Literacy (IL) discourse in terms of three different perspectives of analysis: disciplinary, educational and cognitive. The cognitive perspective is the most discussed in the specialised literature and a number of standards for the definition and assessment of IL skills have been developed as well. The paper concentrates on a less explored dimension of Information Literacy: the policy dimension, linked to both the disciplinary and educational perspectives of analysis. More specifically, the paper considers IL as an issue crossing the spheres of influence of both Education and Information policies. Policy decision-making strongly relies on indicators that have been suitably defined to provide a measurable picture of the phenomenon in hand. To date, the analysis of IL policies in Europe is not so equipped and the task of comparing IL policies in the different European countries cannot be other than qualitative. Starting from the data available from the European Observatory on IL Policies and Research, the paper provides a common reference frame for analysing and comparing IL policies and research in European countries. The proposed framework complies with the design criteria of the European Observatory on IL Policies and Research that the author launched in 2006 (http://www.ceris.cnr.it/Basili/EnIL/gateway/gatewayhome.htm).

Keywords: Information literacy; Policy indicators; Academic policies; Europe

РЕЗЮМЕ

Докладът разглежда дискусията за информационната грамотност от три различни аспекта на анализ: отраслов, образователен и когнитивен. В специализираната литература когнитивният аспект е най-дискутиран и са разработени голям брой стандарти за дефиниране и подход към уменията, включващи се в нея. Докладът обръща внимание на по-слабо разработеното измерение на информационната грамотност – измерението на политиката, което е свързано както с отрасловия, така и с образователния аспект на анализа. По-специално, информационната грамотност се разглежда като въпрос, който пресича сферите на влияние на политиката в образованието и на информационната политика. Политическите решения са тясно свързани с подходящото определяне на индикатори, които да представят достоверна картина на изследваното явление. Засега, те не са

на разположение за анализа на информационната грамотност в Европа и затова задачата да се сравнят политиките на различните европейски страни може да стъпи само на количествени данни. Като използва данните, получени от European Observatory on IL Policies and Research, докладът предлага обща референтна рамка за анализиране и съпоставяне на политиките и научните изследвания по отношение на информационната грамотност в европейските страни. Предложената структура е съобразена с критериите за проектиране, предложени от автора през 2006 г. в European Observatory on IL Policies and Research (http://www.ceris.cnr.it/Basili/EnIL/gateway/gatewayhome.htm).

Ключови думи: *информационна грамотност; индикатори за политика; академични политики; Европа.*

INTRODUCTION

THE INFORMATION LITERACY CONCEPT OVER THREE DECADES

A major priority of the Information Age is the goal of achieving Universal Access to Information. This goal has been pursued for a long while, since the seminal work by Tom Wilson (1981) on behalf of UNESCO aimed at defining guidelines for developing national information policies. We can identify three major dimensions of the problem concerning Universal Access, according to what we call the "3C model". The main axes along which an efficient information policy articulates are:

• *Connectivity*: measures aimed at ensuring a capillary structure – both institutional (for example, the libraries in a country) and technological (for example, the Internet) – acting as a "conveyer" (or distribution network) of information to every citizen;

• *Content*: measures aimed at ensuring that reliable information is conveyed to "connected" users;

• *Competencies*: measures aimed at ensuring that "receivers" are able to efficiently retrieve and fully exploit the conveyed information.

Elsewhere (Basili, 2003), we have already underlined that until now the third "C" has been neglected in European Union policies and that diffusing information literacy (IL) is a requirement of today's Information Society (Basili, 2007).

1974: Information Literacy as a Policy Issue

The origin of the "Information Literacy" concept dates back to 1974, when Paul Zurkowsky, then president of the Information Industry Association, coined the term suggesting that:

[…] the **top priority** of the National Commission on Libraries and Information Science should be directed toward establishing a major **national program** to achieve **universal information literacy** by 1984 (Zurkowsky, 1974). In the statement by Zurkowsky some points should be noted:

1. the "**business**" origin of the term, since Zurkowsky was representing the information industrialists of the time;

2. the qualification of information as an **economic good**, that has **value** to people and can be sold at a certain price in the marketplace (as the existence of the Information Industry Association demonstrates); and

3. the **policy dimension** of the concept: the statement clearly mentions Zurkowsky's hope that a national program would be started, aimed at achieving universal information literacy within a decade. Therefore, the Information literacy concept was originally characterized as an intervention having a political matrix.

1989: Information Literacy as a Skill

Despite its business, economic, and political imprinting, the IL problem has been entrusted to academic libraries and mainly dealt with as a competency to be spread and diffused among library users. As a result, today we are presented with a vast amount of literature having a "library matrix" that discusses IL as a particular **skill**, according to the following definition:

> To be information literate, a person must be able to recognize when information is needed and have the ability to **locate**, **evaluate**, and **use effectively** the needed information. The information literate individuals are those who have **learned how to learn** (American Library Association, 1989).

An important precursor of this definition is the work of Winkworth as cited in Wilson (1981):

> Winkworth offers a categorization of information skills in a survey of user-education in schools which can be adapted to other systems. The categories and contents are shown in Table 1, which is reproduced from Winkworth's report.

Winkworth's table distinguishes the following steps in the research process:
- Define subject
- Locate information
  - Locate material in library
  - Locate information in material
  - Locate material outside library and school
- Select information
- Organize information
- Evaluate information
- Communicate results

It is remarkable that as early as 1977 Winkworth laid out the basic model for most of the IL competency standards, syllabi and tutorials currently available.

The ALA 1989 definition has given rise to a number of standards, which, in turn, have had a great impact on the Higher Education sector. In the USA the *ACRL IL standards for Higher Education* were defined in 1999 by the Association of College and Research Libraries (ACRL) and translated into: Finnish, French, German, Greek, Italian, Spanish, Chinese, Japanese, and Iranian. In Australia, the Australian and New Zealand Institute for Information Literacy released the second edition of the *Australian and New Zealand Information Literacy Framework* in 2004.

The educational philosophy underpinning the Australian IL standards strongly promotes the idea that IL should be tightly integrated into teaching and learning activities. The standards suggest that all academic curricula be reformed in line with its recommendations as a matter of university-wide policy.

A major policy parameter in the assessment exercise of Australian universities is the set of graduate attributes that each university must declare in its mission statement. According to (Barrie, 2004):

> … generic graduate attributes in Australia have come to be accepted as the skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a range of contexts. It is intended that university students acquire these qualities as one of the outcomes of successfully completing any undergraduate degree at university.

This statement has been widely acknowledged and IL has been included among the set of graduate attributes, so that, already in 2004, 53.8% of Australian Universities had included

IL among the graduate attributes declared in their mission statement. One example among many others is the University of Sydney, which in 2002 started a project for revising its graduate attributes policy, according to a multidimensional classification of attributes:

The revised policy specifies two levels of attributes. There are three overarching graduate attributes − **Scholarship**, **Lifelong Learning**, and **Global Citizenship** − which reflect the research intensive nature of the University, its scholarly values in relation to research-led teaching, and the place of its graduates in a global society.

These overarching attributes represent combinations of five clusters of more specific attributes, which can be interpreted or contextualised differently in different disciplinary domains. These are in turn supported by generic foundation skills and abilities underpinned by basic competencies. (Barrie, 2004)

Figure 1: Graphical representation of graduate attributes and their functional aims (from Barrie, 2004).

Furthermore, Barrie refers to the definition by the HE Council of 1992, from which most of the definitions for "graduate attributes" derive:

These are skills, personal attributes and values, which should be acquired by all graduates regardless of their discipline or field of study. In other words, they should represent the central achievements of higher education as a process. (HEC, 1992, p. 20)

The commitment to skill development of graduate attributes has been adopted by the European Union policies on Higher Education under the name of "learning outcomes" and officially recommended in 2005 at the meeting in Bergen of the Ministers of the Bologna Process signatory states. The Bergen Communiqué, in fact, officially adopted the "Standards and Guidelines for Quality Assurance in the European Higher Education Area". The Guidelines produced by the European Network for Quality Assurance in Higher Education (ENQA) recognize the fundamental role of the learning attributes approach in achieving transparency and comparability of competencies within the European Higher Education Area.

2005: Information Literacy and Lifelong Learning

Increasingly, IL has been conceived as a milestone for the lifelong learning goal. The Alexandria Proclamation states that:

Information literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion in all nations. (UNESCO – IFLA Alexandria Proclamation, 2005)

The Proclamation was released as the final document of the High Level Colloquium on Information Literacy and Lifelong Learning held in Alexandria, Egypt, on 6th-9th November

2005. It is one of many contributions and we refer to the specialized literature on the matter for a deeper understanding of the synergy between information literacy and lifelong learning (Candy, 2002; Kuhlthau, 1999; Lau, 2006; Rader, 2002).

INFORMATION LITERACY: THREE PERSPECTIVES OF ANALYSIS

There has been a large amount of speculation in order to define the IL concept with different *foci*, including critical thinking, informed learning, and functional literacy, among many others.

In order to help systematize this issue, we recently proposed the distinction among three different perspectives of analysis for Information Literacy (Basili, 2007):

- Socio-political perspective: analysis of Information Literacy as an educational policy goal (Education to Information);
- Disciplinary perspective: analysis of Information Literacy as a form of study of information (Culture of Information);
- Cognitive perspective: analysis of Information Literacy as a form of personal competence (Information Skills).

Basili (2007) illustrates in detail each of the three perspectives as well as their motivations and implications:

 [...] we strongly believe that coherent pragmatic decisions can derive from coherent theoretical premises. [...]. In fact, our conviction is that the lack of a separation between different "stratifications" of reasoning represents one of the main causes of confusion about IL discourse and, consequently, that this obscures the way towards concrete and coordinated policy measures. (Basili, 2007)

Furthermore, each of the three IL perspectives is among the research activities addressed by the European network on Information Literacy (EnIL).

THE EUROPEAN NETWORK ON INFORMATION LITERACY AND ITS RESEARCH AGENDA

The European network on Information Literacy is a research project started in 2001 by the Italian National Research Council, with the aim of adopting a common research agenda and sharing results among IL researchers in Europe (Basili, 2004). To date the network includes IL experts from research and academic institutions in: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Slovenia, Spain, Sweden, and the United Kingdom. The network will be further enlarged to include all EU25 countries. The main research issues addressed by the EnIL network are:

Policy awareness: to what extent is IL a national policy issue in the different European countries?

Higher Education Policies: What are the academic policies related to the integration of IL into university curricula?

Best practices: what is the best implementation model of IL in Higher Education?

Barriers: what are the main barriers to an effective integration of IL into academic curricula?

Literacy status: what is the level of IL competency among university students in Europe?

Each research question corresponds in our vision to a (sort of) indicator aimed at depicting what we call the *IL-readiness* of a country.

REPRESENTING IL-READINESS IN EUROPE: THE EnIL OBSERVATORY

Among the EnIL research results, the European Observatory on IL Policies and Research was established in 2006 with the specific aim of producing a picture of the degree of IL-readiness of European countries. The Observatory was set up with a viewpoint purposely dedicated to the policy and research dimensions of IL and the Higher Education context of its application.

Design Criteria of the EnIL Observatory on IL

The EnIL Observatory was designed according to a matrix of different criteria, which can be grouped according to the following categories: purpose-oriented, geographical, and research-sensitive criteria.

Purpose-oriented design criteria match the scope of the EnIL Observatory and therefore draw attention to the policy and research facets of the IL discourse and to the Higher Education context. This means that initiatives of a political matrix or in the academic environment are mainly considered.

Geographical criteria comply with the regional focus of the Observatory: Europe and European countries. This implies that the Observatory is hierarchically organized on a country-basis and includes European countries, though not exclusively European Union Member States, even if a section related to the European Union initiatives is included.

Research-sensitive criteria comply with our vision of what contributes to the IL-readiness of a country. Only what can be considered a factor supportive of the IL-readiness condition of a country is included in the Observatory.

The described criteria bring about a gateway of IL initiatives grouped by country (to date the Observatory has been established for Austria, Denmark, Estonia, Finland, Germany, Italy, Latvia, Lithuania, Poland and Spain, and consists of more than 600 web pages) and arranged in the section illustrated in Figure 2.

Policy initiatives
Survey reports
Research projects
Campus initiatives
Events
Special Interest Groups
Academic library initiatives
Tutorials
Learning resource Centers
Public library initiatives
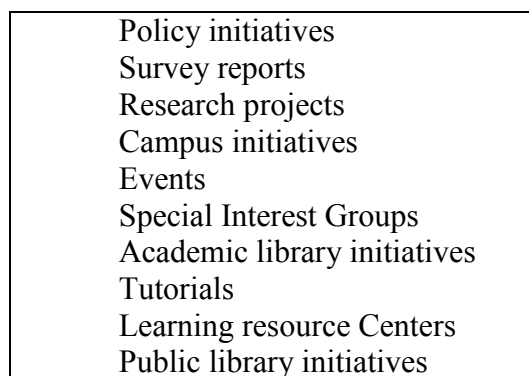
Figure 2: Sections of the directory for each country in the EnIL Observatory

A section contains a set of entries, each describing an initiative related to IL in the country.

Observed variables

The general format of the initiatives listed in the EnIL Observatory includes the following fields represented in Figure 3.

```
Title and network address:
Body responsible:
Start date:
End date (if applicable):
Typology:
Textual description:
Keywords:
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Figure 3: Format of any single entry in the EnIL Observatory

Except for the Title, each field has been identified and included in the format because it has been considered functional to a variable which must be observed. The earliest start date indicates the "age" of the IL discourse in the country, thus expressing the "*timeliness*" of the country in dealing with the IL issue. The "body responsible" is representative of the *degree and nature of the involvement*: a government initiative obviously reveals a wider involvement than a faculty or library initiative, while an initiative by the Ministry of Education, rather than by the Ministry of Telecommunications or the Ministry of Innovation, expresses the country's *perception* of the *nature* and *context* of the IL issue. The typology expresses the *scale* of the initiative: a national policy document, a research project or a library tutorial evidently have different effects and impacts on the country. The existence, distribution and prevalence of the different kinds of initiatives in a country are a sign of the *value* attributed to IL.

Each initiative described in the Observatory has been assigned a set of keywords, denoting its subject content. To date, the keywords have been freely attributed, due to the lack of a controlled vocabulary for the field of IL policies. This is among the future tasks to be performed in the EnIL Observatory, in order to achieve better indexing of the documents and allow for *comparative searching* among the various countries.

THE EnIL OBSERVATORY AS A SOURCE OF IL POLICY INDICATORS

The term "indicator" derives from the Latin verb *indicare*, which means "point out" or "call attention to." The term is widely used in statistical analysis as a major tool for informed decision-making in policy formulation. This means that having the right indicators will result in better decisions and policy-making. According to the OECD (1993), indicators are parameters that give information on some phenomenon and reduce complexity in order to make problems quantifiable and communicable. Averch (1980) conceives indicators as tools "to shape lines of arguments and policy reasoning."

A recent worthy attempt to define a set of IL indicators was made by Catts (2008), with the publication of a study commissioned in March 2006 by the Intergovernmental Council for the Information for All Programme (IFAP) of UNESCO:

The study recommends that a set of indicators of information literacy be defined on the basis of existing survey data, as many countries were unlikely to have the financial resources for dedicated surveys and suggests the following framework for the development of information literacy indicators:

a) […] the measurement of information literacy skills. […]

b) The indicators of supply and access were important to establish the degree to which people with information literacy skills were able to use them in an information-rich en-

vironment. They are pre-requisites for the development of information literate communities.

c) Further investigation on the skills required for primary school teachers to model information literacy competencies in their practices is recommended. […] (Catts, 2008)

Furthermore, the study highlights the need to "identify the *prerequisites* to Information Literacy namely *supply*, *access*, and *reception* of information, together with *ICT skills*." Even if the policy relevance of IL is recognized in a number of passages, the study does not directly address the issue of defining *policy* indicators for IL. It nevertheless constitutes an important starting point for future speculation on the matter.

Despite the simple definition by the OECD (1993)[1], an indicator should be made up of a definition, a value and a measurement unit. Indicators, therefore, are specific statistical tools, collected on a regular and systematic basis. According to Van den Berghe (1997), four types of indicators can be distinguished: descriptive indicators, management and policy indicators, performance indicators, and quality indicators (a subset of performance indicators). Far from claiming to follow a sound statistical approach, the EnIL Observatory nevertheless provides a set of variables useful to the building of a picture concerning the IL-readiness of European countries, with a special focus on the policy dimension. The main IL-readiness variables provided by the EnIL Observatory are listed in Figure 5.

Timeliness in addressing the IL issue
National policy awareness
Role of IL in Higher Education
Degree of perception
Disciplinary contexts
Scale of the phenomenon
Configuration within the education system
Agents/stakeholders

Figure 5: Main variables in the EnIL Observatory

CONCLUSION

The research agenda of the European network on Information Literacy is mainly focused on Information Literacy policies in the European Higher Education system. The EnIL Observatory on IL Policies and Research in Europe has been designed and developed in order to:

- provide a picture of the IL-readiness of European countries; and

- allow for comparative studies on IL policies and research activities among European countries.

To date, it is a qualitative rather than statistical tool, since measurement issues have not yet been considered. Nevertheless, the statistical counter which records accesses to the Observatory demonstrates that it is highly used, in Europe and worldwide.

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[1] "Indicators are parameters that give information on some phenomenon".

The design criteria of the Observatory and the variables identified can be considered as a framework for building a map of IL policies and research activities in Europe and, mainly, as a basis for building a set of statistical indicators aimed at formulating and implementing coherent IL policies.

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Information Literacy in Portugal: A Theory and Practice Approach

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Информационната грамотност в Португалия: Теоретичен и практически подход

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ABSTRACT

This paper presents a project which, although focused on the specific case of Portugal, intends to make a scientific approach of the challenges of the European Higher Education Area (EHEA) and its impact in the field of information literacy, considering the actual context of the Information Society. The main issues are to understand how university students face the new competences required by the creation of the EHEA and how these students are prepared in terms of information competences in three different moments: prior to starting at the university, during the time at university, and at the end of the university degree. A transdisciplinary approach between Education, Cognitive Sciences and Information Science is taken, profiting from the interaction between information needs produced in the educational context and the student's informational universe and its dynamics, without forgetting to consider the connections of the student's informational behavior with their personal and social context and demands. The study will be performed on a national scale, allowing comparisons between regions with different development levels, and will include an estimated sample of 2,000 students from 17 high schools and 17 universities. Indicators obtained from qualitative research about the students' information behavior, expectations, needs, and use of information will be used to design questionnaires. The research will result in the design of an informational behavior map, at the university level, and the development of a model concerning the promotion of information competences in Portuguese university students.

Keywords: Information concept; Information Society; Information literacy; Information behavior; Higher education; Portugal

РЕЗЮМЕ

Този доклад представя един проект, който е свързан със специфичните условия в Португалия, но е замислен като прилагане на научен подход към предизвикателствата на Общоевропейската зона на висшето образование (EHEA) и нейното въздействие в областта на информационната грамотност в контекста на съвременното информационно общество. Основните задачи са да се разбере как студентите ще посрещнат изискванията за нови умения, появили се със създаването на EHEA и доколко те са подготвени по отношение на тези информационни умения в три различни момента: преди да постъпят в университета, по време на следването и след получаването на университетска диплома. Използва се междудисциплинарен подход, при който са съчетани образование, когнитивни и информационни науки. Използва се взаимодействието между информационните потребности, създадени в контекста на обучението, информационната вселена на студентите и нейната динамика, без да се пропуска връзката между информационното поведение на студента и неговата лична и обществена среда и търсения. Изследването ще се проведе в национален мащаб, щи позволи да се направи сравнение между региони с различно ниво на развитие и ще обхване около 2,000 студенти от 17 висши училища и 17 университета. Индикаторите, които са резултат от качествено изследване на информационното поведение, очаквания и потребности на студентите и ползването на информация ще бъдат използвани за съставяне на въпросници. Изследването ще завърши със съставяне на карта на информационното поведение в университетите и разработване на модел за развиване на информационната компетентност на студентите в Португалия.

Ключови думи: *информация; информационно общество; информационна грамотност; информационно поведение; висше образование; Португалия*

INTRODUCTION

To develop an information literacy (IL) project in Portugal we had to consider the national and international context. In the first case, we analyzed and studied the bibliographies about IL produced in Portugal to know the level of implementation of it. In this process we discovered two things: the theme was still in an incipient state in Portugal, and there were not any Portuguese projects similar or with the same aims and approach. Regarding the international arena, we detected a very high bibliographic production, especially between the mid-1990s and early 2000s, but we did not find any initiatives where a research group tried to make an IL diagnosis of a country. Research would investigate a group of library users or a group of students, but there was not an integrated and global perspective.

The major purpose of this research is to investigate the information competences levels in Portuguese university students, but to get these results we need to hold other objectives. We have considered education as a system and we decided to include the precedent educational level, high school, in our analysis. We understand that information competences acquired in this level are going to determine the information behavior in university students. A secondary objective in our project is to investigate how students arrive at university level. For this, we investigated information skills in university students and also the high school student population.

We can divide our project into two important phases, the diagnosis and design of strategies. Our final aim is to define an information skills strategic plan in order to adapt the Portuguese universities to EHEA and Information Era. However our purpose will not be

complete if we do not consider a last objective: to sensitize academic and political authorities about the information literacy problematic.

In connection with our aims we hold several premises in order to develop this eLit project:

a)   It is necessary to carry out a specific study in Portugal with the purpose of determining information literacy level;

b)   In order to determine the aptitude and attitude of the university students the higher education information literacy level must be assessed;

c)   The informational background is potentially different in distinct geographic areas of Portugal;

d)   One's information behavior is connected to expectations, needs and lifestyle;

e)   The creation of an information literacy strategic program would be an optimal way to adapt Portugal to the EHEA and to the Information Era.

Not dissociated and functioning as a structural reference of this project is the definition of a theoretical-practical model that must be reached in order to show the importance of the connection between information literacy and information behavior, as we have described before.

THEORETICAL POINT OF VIEW

According to the above conceptual premises there are some inevitable inferences implied in the theoretical corpus on which this project is based and from which the results of the research will de interpreted:

a)   information and explicit knowledge are synonyms, both differing from cognition (in which the concept of implicit or tacit knowledge becomes dilute);

b)   information and communication are not symmetric concepts but rather complementary and indissociable;

c)   information (or explicit knowledge) comes from a binomial, which we can characterize referring to Reuven Feuerstein, a Piagetian psychologist, to whom biological ontogeny (which considers the human being as a set of cells, connected with the environment) continuously interacts with the socio-cultural ontogeny (responsible for the social, moral and communicational structure of the human being);

d)   information substantially differs from document, although a document cannot exist without it;

e)   from the perspective of Information Science, information literacy is related to the process of learning and acquiring competences and skills directly connected with the creation, search, organization, storage, diffusion, transmission and transformation of information or knowledge;

f)   information literacy is a fundamental topic within information behavior, having developed significantly in the USA and disseminated from there; and

g)   the Information Science approach to information literacy presumes a natural and fertile interdisciplinary intersection with Education Sciences, Cognitive Psychology and the Neurosciences.

These assumptions allow us to explore how the approach to information literacy is built in two complementary moments or periods: (1) a period that is internal or inherent to

Information Science; and (2) a period that is external to Information Science or interactive with other approaches. In the first period it is important to understand that which can be specific to Information Science. To this end, it is urgent to highlight the following statement from a recently published note on information literacy: "Based on this wider spectrum, in Information Science it is convenient to work with the concept of information literacy to refer to the competences and selective and synthetic ability to search for and use information. (…) Determine the type of learned competences, as well as the spontaneous or induced needs, during the learning process, in what concerns the search, reproduction/reference (citation), interiorization and communication of information" (Silva, 2006, pp. 153-154). It is also important to remember, as a key mission of Information Science, the study and determination of individuals in their various contexts, of their need for information; of their performance in terms of use and communication of information with a specific purpose, generating new information and creating new information needs; of their efficiency in considering the implications of their actions and the knowledge generated, concerning ethical, political, social and economical aspects, performing intelligent interventions (Dudziak, 2001); and, lastly, of their ability to independently learn during life, assuring a continuum of competences which interact with social, professional and personal demands.

The scientific investigation of the above-mentioned aspects leads, inevitably, to degrees of demand and depth that imply a dialogue between Information Science and other scientific disciplines. Among these scientific disciplines, Psychology and Pedagogy have a more relevant role, but we must also consider the Sociology of Education and Culture.

Thus, we have designed a new model that sustains and explains our research. Two key aspects have been integrated in the model: information literacy and information behavior. In all the literature dedicated to information literacy we did not find a model that explains this concept as a process. On the other hand, in the area of information behavior, the contribution of Tom Wilson (1999, 2000) is very important but requires a new approach where access, evaluation and communication of information should be integrated, an approach which projects its transversal dimension onto every aspect and situation of social life and not only on those where the subject/person interaction occurs, or in conventional services and/or technological information systems.

In Figure 1, we present our methodological proposal. This model assumes that information skills are co-determined, at first, by environmental conditions and by human action, contextually and situationally focused. This environment includes political, economic, legal, social and cultural factors. This situation cannot be changed by students but does influence them. For example, the creation of the EHEA has brought about changes in university students' lives but they cannot avoid this process. On the contrary, they must adapt to it. If an environment cannot be changed by students, the context becomes all the more pressing for them. Thus, we distinguish these two concepts. Environment refers to a generic framework where, within the reality of a country, broader international community or even a diffuse geographic-civilization sphere (such as the Western World), human and social life is contextually and structurally developed, including the even more intense and extensive activity developed in cyberspace. The context is a more personal situation, not only in terms of family, but also in academic, psychological, and educational terms and, in general, all matters directly related with students. Environment determines the context, and context is the way to understand the extension and characteristics of the environment, as well as of its particularities.
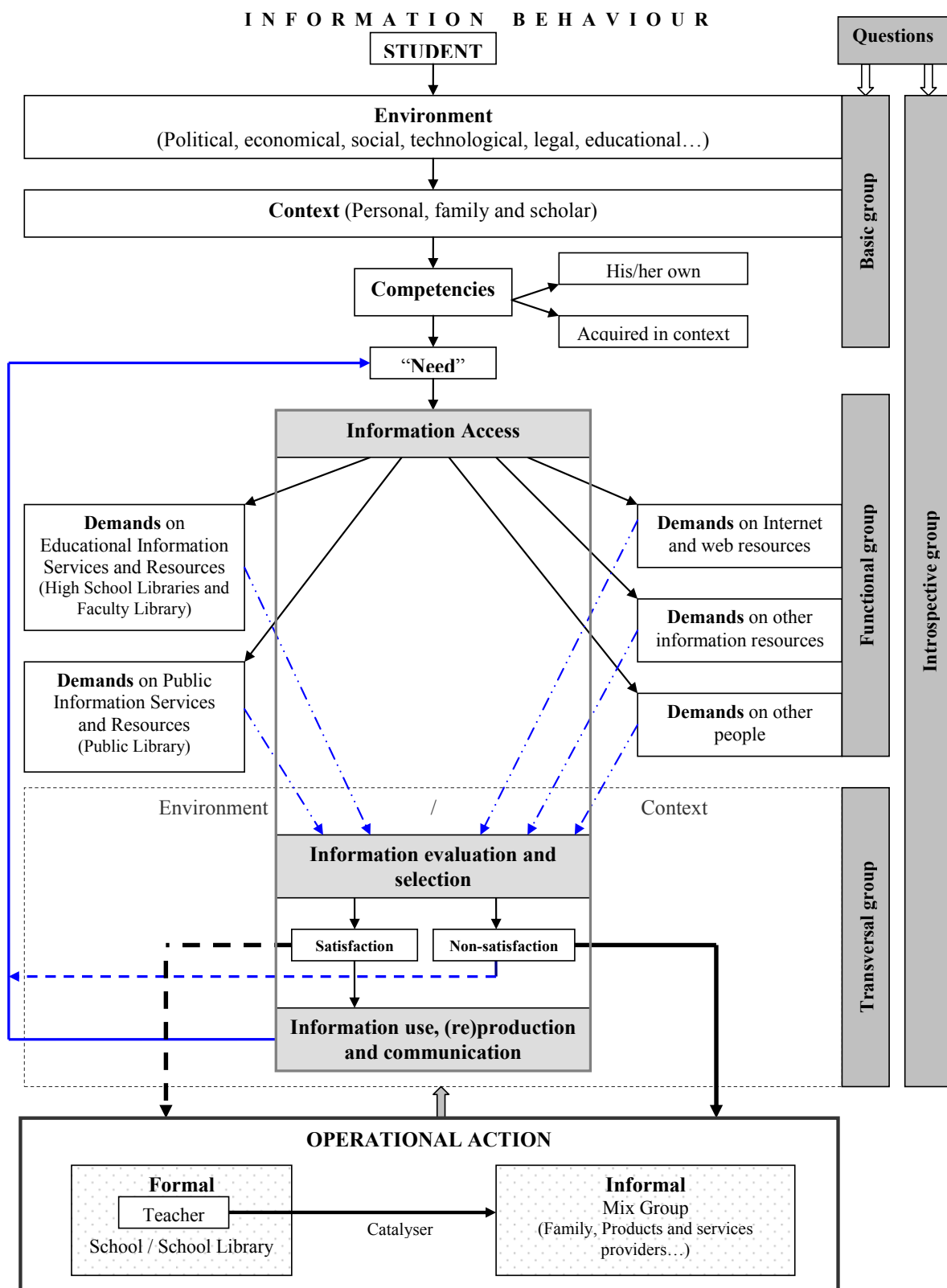
Figure 1: eLit model

We believe that motivation defines information needs. Motivation will be determined by the way of life, aspirations, familial influence and other aspects that shape a student's context. In other words, a student's context influences information needs. This reference is particularly important in our study. An IL program will never change the information behavior of students if they do not have an internal mechanism that facilitates a change in conduct.

Thus, information needs determine the way in which students access informátion. If a student has low aspirations the information resources used to satisfy his/her information needs will also be low. We also consider that in the Information Era students can satisfy information needs in different ways. Not only in a formal way (library, educational resources), but also in an informal way, using different media, undoubtedly the Internet, but also the radio, television, videogames and people (teachers, friends, family), among others.

When students access information a process of evaluation and selection is automatically activated. Obviously this process is influenced by situation, context, and environment. If a student uses a restricted number of poor quality information resources, his/her perception about the need to evaluate information will be low. We can postulate that if the risk of the use of information is high, the need to evaluate information and the variety and quantity of indicators is also high. The result of this process is the satisfaction or non satisfaction of the student. If he/she is satisfied, the information will be used and communicated in any format and for any purpose. Consequently, a certain use of information leads to a new reality and, thus, to new expectations and new questions, and finally new information needs appear. In this process, the usual situation is that the student uses a formal channel to interpret and access information. This formal channel is represented by the education system, that is, teachers and an academic or school library. But, what happens when the student is not satisfied with the information results?

First, the information is not used; second, the information cycle is subverted because a frustrated process leads to a weak formulation of an information need. In this case, students reject formal channels and start to use informal methods, such as Google.

PRACTICAL APPROACH

Within this theoretical basis we have planned and carried out our research. First, we identified our population and research sample. For this we applied the following criteria:

- it is necessary to investigate the same geographical area (mostly city) for both high school and university;

- the selected cities are Porto, Vila Real, Bragança, Covilhã, Castelo-Branco, Coimbra, Lisboa, Évora, and Faro (see Figure 2);

- the selected regions reflect different socioeconomic situations;

- try to present northern, center and southern regions of the country and include littoral and countryside areas;

- the sample includes students from the last year of high school education (12th grade) and university students in the 2nd year, to compare the skills in two different moments: prior to the university and during the university period;

- 18 high schools were selected according to a national ranking (published in the "Student Guide" of the national newspaper Expresso, 3rd of November 2007). We chose two schools by city, the best and worst ranked (when possible);

- we distributed the survey to all the 12th grade students in each school to cover all the existing areas and have the participation of a reasonable number of students;

- in higher education, we differentiated between polytechnic and university students because we considered that there is going to be different levels of information literacy;

- the selected Universities are: University of Porto, University of Trás-os-Montes e Alto Douro, University of Coimbra, University of Beira Interior, University of Évora,

University of Lisboa / Universidade Nova de Lisboa / Universidade Técnica de Lisboa and University of Algarve;

- in the universities we selected the degrees: Psychology, Civil Engineering, Biochemistry, Architecture, Administration, and Languages and Literatures;

- in the polytechnic schools we chose Instituto Politécnico do Porto, Instituto Politécnico de Bragança, Instituto Politécnico de Castelo Branco, Instituto Politécnico de Coimbra and Instituto Politécnico de Lisboa;

- in the polytechnics we selected the following careers: Civil Engineer, Administration, and Nursing;

- In all segments we distributed the survey to all the students in order to consider, in most cases, a minimal number of 50 students.

Figure 2: Regions of Portugal involved in the research

The research method that has been applied is divided in two approaches: qualitative and quantitative. The qualitative research (interview with focus groups) permitted us to obtain valued indications about the information behavior, expectations, needs, and use of information. The indicators obtained in qualitative research were used to design the model of the questionnaires.

We retrieved and consulted the most important literature on information literacy. With this information we elaborated a matrix with the main concepts, models and indicators. Based on the principal models we designed a mix of items that will integrate the script of the interview. The interview was carried out with a reduced number of students of high school and university in Porto, in January 2008.

The interview consisted of 41 questions, divided in four main groups: Needs; Research (and evaluation of the research); Use (and evaluation of the results and of their application); and Ethics. It was applied to three focus groups: two in the 12th grade of high school; and one in the 2nd year of the higher education level. One of the high school groups was composed of 9

students of the 12[th] grade of Escola Secundária Rodrigues de Freitas, from Language and Literatures, and Sciences and Technologies areas. The other group was composed of 8 students from the 12[th] grade of Escola Aurélia of Sousa, from Arts area. The university focus group consisted of 8 students in the 2[nd] year of the Sociology degree from Faculty of Arts of the University of Porto.

With the analysis of the results from the qualitative phase we designed a draft of a questionnaire. This draft was discussed inside the *eLit.pt* research team. Then we initiated, in April 2008, the quantitative phase. This period started with a pilot stage, during which the survey was carried out on a group of 28 students from 12[th] grade of Escola Secundária Rodrigues de Freitas. For university students, the questionnaire was tested by 19 students of Information Science at the Faculty of Arts of the University of Porto. The obtained answers were analyzed descriptively by the statistical software SPSS, version 15.0.

With the pilot stage results, the *eLit.pt* group discussed changes and a new proposal for the questionnaire emerged. On May 2008, the survey was initiated with the final version integrating 54 questions. It had four kinds of questions:

- Basic group: Included familiar and scholar context. We define context as a space where the students develop his/her information behavior structure, where they configure a way to face to the information literacy.

- Functional group: Integrated by mediation role of institution as library and school.

- Transversal group: Included all the questions related to the way that students mix and use diverse information. For example: information access, information evaluation, and use.

- Introspective group: Internal mechanism (motivation) linked with information need.

We present here the first results obtained from the survey conducted in May, June, September and October 2008 and analyzed using SPSS 15.0. The sample was compiled from 1,624 students of institutions of Porto, Vila Real, Bragança, Coimbra, Covilhã, Castelo Branco and Lisbon. Of these, 1,242 were students of higher education, while the remaining 346 were from high school.

EARLY FINDINGS

When we analyzed the surveys' first results we detected that information literacy level in high school and university's students is almost the same but certainly in some indicators universities students have better results. From our research we can confirm some ideas or hypotheses.

a) The young generation has a very high access to information technology infrastructure. 64% of high school and 72.6% of university students have 1 or 2 computers at home. Of the combined sample group, 90% have internet connection at home. Almost 100% of both segments stated they were able to get Internet access at school/university.

b) Young people frequently used the Internet and they prefer access to it from home. This information connects with results obtained when they were questioned about the place where they do home work (see Figure 3).
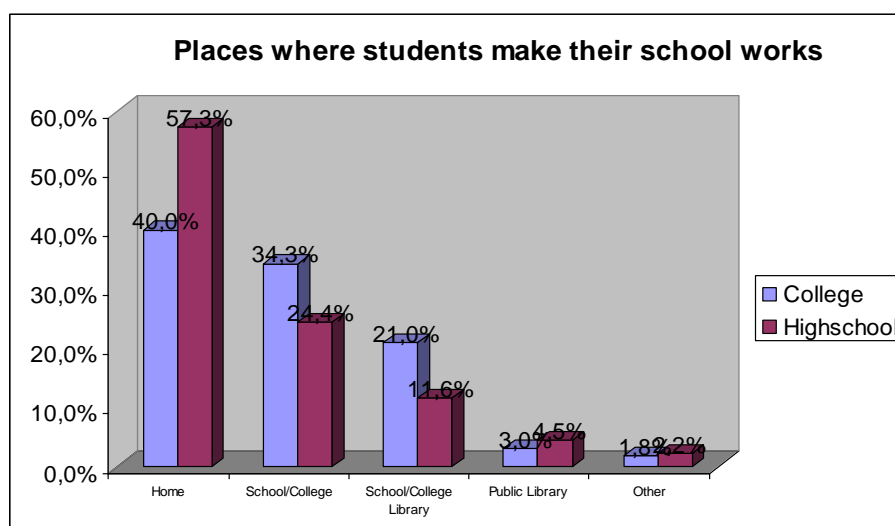
Figure 3: Where students do homework

c)   In this sense we confirm that students are using general resources, not qualified resources like a virtual library. If we can explain this situation with the absence or presence of ICT training we can verify that this variable has no relationship. The values in the two segments are different, while 97.1% of high school students stated they get training in school on technology, only the 52.3% of university students are given this kind of instruction. But information behavior among the two groups is the same.

d)   Leisure is the major motivation for using information resources. We can confirm that YouTube and Messenger have a very high use in our sample.

e)   Our investigation shows that students have a large amount of homework per year. 76.8% of high school students have 2-4/year while 73.2% of university students have 2-6/year. But the question is: what kind of resource are they using to prepare their homework?

f)   We can answer that Wikipedia is a very demanded resource, used frequently or very frequently by 56% of high school students and by 54.5% university students. Also teacher notes are very frequently used by 68.9% and 79.7% respectively. But a digital library is almost never used. Only 14.2% of university students and 3.6% of high school students affirmed using it. Similar values appear for library web site use.

g)   In connection with this idea, we confirm that library use is low. 85.7% of high school students and 82.3% of university students declare that they never or rarely use a library for their homework.

h)   Concerning school and academic libraries, we detected different behavior between our two segments. The first difference is that while 59.1% of the students of high school indicate that they never or rarely use the school library, this percentage in university students descends to 23.8% and almost 50% declare coming to the university library frequently. Second, university students made better use of the library resources than another segment. This way while 88.6% of the students of high school indicate not to use the OPAC, nearly 30% of the university students shows use this one with certain frequency. Something similar happens with the use of the databases and the use of the free access documents. Third, it is necessary to emphasize that the values in two segments are not excellent, but near 90% of the students of high school and 80% of the university students indicate that they do not currently have difficulties accessing the resources of the library.

The eLit.pt project will be finished in November 2009. We cannot express final and definite conclusions about our research now. However, we can identify some trends, such as motivation determining information behavior, information literacy in university students is better than high school students, and even though these results refer to Portugal, we cannot

talk about an isolated and individual situation because, although considering different contexts, other papers and research have shown similar results and it will be necessary develop similar projects in other countries, namely in the European area.

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The Methods for Creating an Open Course for Information Literacy in the UACEG Library

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Проект „Методика за създаване на отворен курс по информационна компетентност"

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ABSTRACT

This paper reviews different aspects in realizing the need for creating methods for leading an *open course for information literacy* for library clients from engineering subjects – in particular, architecture, civil engineering and geodesy – and the organization and management of that idea.

In the course of its 66-year history, the UACEG (University of Architecture, Civil Engineering and Geodesy) library has strived to be always a contemporary up-to-date library that renders its readers the best possible service. Concepts like "information literacy," "learning to learn" and "practical application of theory" have a strong relationship with university libraries. Similar projects have been made by other universities for different subjects, but not for students from engineering subjects. Therefore, in order to meet and settle all the challenges that come forward, the library is looking for partnerships and cooperation with other similar institutions.

This project, reviewed in the context of contemporary civilization development, consists of creating a methodology for an open course in traditional and electronic sources of information, owned by the UACEG library, intended for undergraduate and graduate students. Creation of theoretical knowledge and technological abilities will ensure the higher results of the students at their university studies and their professional realization after that. Also this will lead to creating durable habits and discipline when looking for information so that problems connected to orientation in the numerous specialized information domains are going to be avoided.

The paper also renders a report on the results of a sociological investigation among the students concerning the offered open course, as well as their evaluation of the work organization at the library, of the traditional and electronic information sources owned by the library, and, most important, of the realization of the students of their need of such a course.

Keywords: Information literacy; Library instruction; Engineering domain

РЕЗЮМЕ

Текстът разглежда пътя на осъзнаване на необходимостта от създаване на методика за провеждане на *отворен курс по информационна компетентност* за читателите

от инженерните специалности - в частност по строителство, архитектура и геодезия - и организацията и начините за осъществяване на тази идея. През цялата своя 66-годишна история библиотеката на Университета по архитектура, строителство и геодезия (УАСГ) се е стремяла да бъде винаги съвременна, модерна библиотека, която дава на своите читатели възможно най-доброто обслужване. Концепции като „информационна грамотност", „учене да се учи" и „практическо приложение на теорията" имат силна връзка с университетските библиотеки. Подобни проекти са правени в други университети по различни специалности, но не и за студенти от инженерните специалности. Ето защо, за разрешаването на всички появили се предизвикателства, библиотеката на УАСГ търси партньори и сътрудничества с други подобни организации. Този проект, разгледан в контекста на съвременното развитие на цивилизацията, се състои в създаване на методика за отворен курс за студенти и докторанти, свързан с използването на традиционни и електронни източници на информация, притежавани от библиотеката на УАСГ. Формирането на теоретични познания и технологични умения ще доведе до постигане на по-високи резултати от студентите по време на следването и до тяхната успешна професионална реализация след това. Също така това ще спомогне за създаването на трайни навици сред обучените за търсене на информация, за да бъдат избегнати проблемите при ориентиране в многобройните специализирани информационни масиви в тази област. Документът представя и сведения относно резултатите от социологическо проучване сред студентите, което засяга предлагания отворен курс, както и тяхната оценка на организацията на работата в библиотеката, на традиционните и електронните източници на информация, притежавани от библиотеката, и най-важното - на осъзнаването на тяхната нужда от подобен курс.

Ключови думи: информационна грамотност; библиотечна методика; обучение на студентите

ПРОЕКТ „МЕТОДИКА ЗА СЪЗДАВАНЕ НА ОТВОРЕН КУРС ПО ИНФОРМАЦИОННА КОМПЕТЕНТНОСТ"

> „И най-лечебната минерална вода, без съветите на лекаря, действа като обикновена вода."

ПОСТАНОВКА

Тази мисъл видяна от мен на стената на санаториума в град Кюстендил за автор, на която бе посочен Патисие, изразява неговото, а вече и моето, твърдо убеждение, че всяка човешка дейност трябва да бъде ръководена от специалист, който познава взаимозависимостите и взаимовръзките, на които конкретната дейност е подчинена. Ролята на учителя, съветника, човека, който има познанията, облекчили или придали по-дълбок смисъл на това, което бихте искали или вече вършите, е неоспорима. Осъзнаването на необходимостта от търсене на професионална помощ, от намиране на ръководител, е част от изграждането на информационната грамотност, а такъв неоценим съветник в научното изследване е библиотекарят, притежаващ богат инструментариум, опит и технологични умения. Желанието ни да предадем своя натрупан през годините опит, както и да запознаем студентите, докторантите, преподавателите и изследователите с новостите

при работа с абонираните от нас електронни бази данни, бе водещата идея за създаването на курс по информационна грамотност за нашите читатели.

СЪСТОЯНИЕ НА ИЗСЛЕДВАНИЯТА ПО ТЕМАТА У НАС

За ролята на библиотеките като институции, отговорни за разпространението на знанията по информационна грамотност се заговори у нас след промените, настъпили в началото на 90-те години. От тогава датират и първите опити за създаването на такива курсове – първоначално в Университетската библиотека, библиотеката на Нов български университет, а днес в почти всички университетски библиотеки под различна форма съществуват подобни курсове.

Проведени бяха и два семинара за библиотекари по тази тема. Единият бе в град Хисаря през 2006 г., организиран по проект, спечелен от Библиотеката на Американския университет с подкрепата на Американската агенция за международно развитие /United States Agency for International Development – USAID/. Неговата цел бе запознаване с американския опит при преподаване на информационна компетентност на различни групи читатели. Като завършващ етап на проекта бе предвидено всеки участник да направи план – програма за създаване на подобен курс за избрана от него читателска група, да проведе и обобщи резултатите и да сподели опита си с колегите участници в семинара./1/

Вторият семинар бе проведен в град Пловдив през 2008 г. Домакин бе Народната библиотека "Иван Вазов". Семинарът бе организиран по инициатива на Съюза на библиотечните и информационни работници /СБИР/, от октомври тази година преименуван на Българска Библиотечно – Информационна Асоциация, съвместно с Гьоте институт. На него бе споделен опитът на немските библиотеки и бе съпоставен със знанията на нашите библиотекари от училищните, публичните и университетските библиотеки за формиране у читателите на нови умения за работа с електронни бази данни./2/

В секцията на университетските библиотеки всички се обединихме около идеята за ползата от въвеждането на подобни курсове, интегрирани в учебната програма на университетите. Тези курсове трябва да бъдат постоянни, профилирани за различните специалности, в подходящо за читателите време и при активното съдействие на преподавателите, които трябва да станат наши съмишленици.

За актуалността на темата говори и проведената научна конференция на СБИР "Библиотеките и информационната компетентност" през 2007 г, както и включването ѝ в тематичните области на последните международни научни конференции по библиотечни науки./3/ Информационната грамотност стана основна част от библиотечната сфера, включваща науката, практиката и библиотечното образование./4/

В последните години темата заема важно място в дневния ред на библиотечната колегия, както и в библиотековедската наука, защото нейното развитие е обвързано с процес на преоценка на досегашния начин на четене и възприемане на информацията. Днешното поколение студенти, които сега постъпват в университетите, не четат както до сега. За тях Интернет и компютърът са предпочитан, ако не и единствен начин, за връзка със знанието. Компютърните умения на новото уеб базирано поколение изискват промяна в организацията на работата в библиотеката и коренна промяна в психологическата нагласа на библиотекарите. Съвременният библиотекар трябва да осъзнае, че новото четене не унищожава старото, а само помага всеки да организира своята бъдеща 2.0 библиотека, съчетавайки електронни с традиционни ресурси, преосмисляйки научното познание и наслагвайки върху него собствената си визия, за да се роди мечтаната, надявам се от всички нас, глобална библиотека.

Проследявайки историята на развитие на идеята за създаване на курсове по информационна грамотност в библиотеките в България, се дава възможност да се направят обобщения за пътищата, средствата и темповете за усвояване на иновациите в библиотечна сфера у нас, както и за етапите, през които преминава приобщаването, към натрупаното досега научно познание, на новото поколение научни специалисти с утвърдени компютърни навици, работещо в нова информационна среда.

ПРОЕКТ НА УНИВЕРСИТЕТСКАТА БИБЛИОТЕКА ПРИ УАСГ

Воден от желание да предаде натрупаните теоретични знания и придобитите практически умения , библиотечният колектив на университетската библиотека на УАСГ реши да кандидатства пред ръководството с проект за създаване на методика за преподаване на информационна грамотност за студенти по архитектура, строителство и геодезия. Този проект срещна разбиране от страна на ръководството на университета и бе одобрен.

Целите на проекта бяха формулирани така:

1. Да се изградят трайни навици у първокурсниците за работа в библиотека с традиционни и електронни носители на информация;

2. Да се затвърдят уменията на третокурсниците при търсене и оценяване на информация при писане на курсови и дипломни работи и цитиране на научна литература;

3. Да се създаде универсално приложима методика за преподаване на информационна грамотност за строителните специалности./5/

Първоначално проведохме *проучване* сред студентите, за да намерим пресечната точка между целите, които библиотеката си поставя, и потребностите и желанията на читателите. Проучването бе разделено на два етапа. В началото всички студенти, които посещаваха библиотеката, попълваха анкетна карта, а в последствие решихме да разширим обхвата на изследването. Така във втория етап същата анкетна карта попълваха студентите, които не бяха читатели, като анкетни карти бяха оставени в студентските кафенета и в лекционните зали. Анализът на резултатите показа, че няма принципни разлики в очакванията на четящите и на не ползващите библиотеката студенти за това какви услуги биха искали да намерят в нея. Обща бе и липсата на достатъчно полезна за тях информация относно наличните електронни бази данни, за които библиотеката имаше абонамент, въпреки изготвените и раздавани рекламни брошури; правилата за ползване на тези бази, качени на сайта на университета; рекламните кампании, организирани периодично в библиотеката и др.

Част от въпросите в анкетните листове засягаха отношението на преподавателите към библиотеката според студентите и дали самите преподаватели препоръчват за ползване библиотечните ресурси по време на свои лекции. На въпроса виждали ли са свои преподаватели в библиотеката, деветдесет процента от отговорите бяха отрицателни.

Кръг от въпроси се отнасяха за потенциалните ни партньори – други библиотеки, в които студентите са чели, четат или имат намерение да ползват. Интересуваше ни какво в тези библиотеки ги привлича, кое е по-различно или по-адекватно удовлетворява техните потребности. Тази група въпроси ни даде информация какви умения, например за работа с каталози – традиционни и електронни, са придобили читателите от други библиотеки – училищни или публични.

След анализа на целево събраната информация от тази анкета се установи, че услугата, която смятахме да предложим, липсва на пазара на библиотечни услуги в нашия университет и има нужда от нея, защото студентите не знаеха как да извличат пълно-

ценна за тях информация от специализираните бази по строителство. Книгите, които бяха ползвали, са им били препоръчани от библиотекарите. С редки изключения, нямаха представа, още по-малко утвърдени навици, за самостоятелно търсене на информация. Ако преподавателите са препоръчвали библиотеката, то това е само за конкретни учебници или специализирани книги, без да ги подтикват към самостоятелно издирване или изработване на библиографски списъци за техните курсови или дипломни работи.

Вторият етап на нашата работа по проекта бе да направим преподавателите наши съмишленици и съвместно да определим най-удачния начин за запознаване на студентите с конкретните възможности на нашата библиотека. Проведохме редица разговори по темата, определихме най-удобното време и конкретизирахме материала.

След подготвителната работа, при която студентите и преподавателите бяха убедени в необходимостта от създаването и провеждането на такива курсове, пристъпихме към осъществяването на самия проект. Подготвените лекции и упражнения бяха разделени на две основни групи – за архитекти и за инженери.

Методите на преподаване включват лекционна част /например- лекции за документалните източници на информация, целта на които е да се усвои работата с различните документи и използване на метаинформацията в тях/ , използване на аудио-визуална техника и практически упражнения, за които е отделена по-голямата част от времето.За *оценяване* на знанията се провежда тест в края на всяко от упражненията, а след края на целия курс - анкета сред обучаващите с цел споделяне на тяхната оценка за курса.

След дискусия приехме следния начин на провеждане на самите занимания: Съвместно с преподавателите се избира конкретна тема и тя се преподава в библиотеката, където се усвояват практически умения като работа със съдържанието, включено в базите, структура на библиографския запис и др. Целта е да се създадат умения за информационно търсене и изграждане на библиографска справка по преподаваната тема.

Друг кръг от заниманията включва запознаване на студентите с интегрираната библиотечно-информационна система "АБ – Автоматизирана библиотека". Тук се разглеждат функционалните възможности на електронния й каталог, достъпен от локалната мрежа и чрез Интернет, както и сводния електронен каталог на Централната библиотека при висшите технически институти, изработен и поддържан от библиотеката на УАСГ като пряк неин наследник.

Следващ блок е работа с годишника на УАСГ и методите за търсене, оценяване и създаване на научен текст. В хода на практическото занимание студентите се обучават да се ориентират и разпознават достойнствата на добрата тема, която трябва да бъде ангажирана и фокусирана и да покрива критериите на поставената задача. В упражненията се запознават с предимствата от използването на брейнстормингът, наречен метод за изобретяване, като начин помагащ при търсенето на дискусионни теми за дипломни работи. В този модул студентите добиват умения и за ползване на записки, алманаси, енциклопедии и други видове справочна литература. Важен аспект на обучението е усвояването на различните методи за прецизиране на вече избраната тема. След завършване на този модул обучаваните трябва да могат да формулират своята тема като въпрос, да идентифицират и анализират ключовите термини в нея. Изясняването на терминологията и синонимите е ключово умение и при работата с електронните източници и бази данни, тъй като при много от тях търсенето също е изградено на принципа на ключови думи. Ето защо на практическото усвояване на тази тема бе обърнато специално внимание.

Друг свързан с горния е модулът – въведение в оценяването на информацията и информационните източници. Тук, за разлика от предишния, се изясняват теоретично и се изработват в практиката критерии за разбиране на ценността на периодиката; какво е

научна периодика; как се четат цитиранията и различните възможности за идентифициране на научни списания. Разглеждаха се и въпросите, свързани с оценяването на намерената информация, на броя на резултатите, на описанията и на самия библиографски запис. Отново лекциите и упражненията бяха съобразени с преподавания в момента материал. Целта бе да се усвои и затвърди едно умение чрез свързването му с друго. Идеята за двойната полезност бе в основата на изгражданата методика за курсове по информационна грамотност.

Може би най-интересен за студентите се оказа модулът за търсене на статии в електронни списания и пълнотекстови бази данни, за които библиотеката е абонирана. Избрахме два подхода – търсене на статии по тема и намиране на текста на позната статия. Чрез този модул целяхме да бъде разбрана връзката между печатните и електронните версии на списания, да се усвоят познания къде да намерим списанието, т.е. начини на подреждане, видове сигнатури и др., а при практическите упражнения за работа с електронни списания трябваше от описанието на списанието да се достигне до текста на търсената статия в него. Анкетите на преминалите курса студенти показаха, че уменията, утвърдени с този модул, бяха оценени най-високо. При търсенето на статии по тема отново се изясняваше ролята на ключовите думи за научния текст, практическото използване на "and" и "or" операторите и начините за лимитиране на търсените резултати. За практическата полза от този тип умения ясно говори рязкото повишаване на ползването на базите от студенти, преминали този курс на обучение.

Естествено, не бе пропуснат и модул за Интернет, интернет браузери, значението на URL и HTML, видове сайтове и как трябва да се търси информация в тях, търсещи и метатърсещи инструменти, тематични директории, невидимият или дълбок уеб. Този модул бе по скоро изграден по така наречената "взаимоучителната метода", тъй като много от ключовите моменти бяха добре известни на студентите и част от техните знания допринесоха за обогатяването на нашите знания.

Първоначалната блокова структура на занятията претърпя някои промени. Смятахме да запознаваме обучаващите се с една база от данни /например EBSCO/ в един модул, но в процеса на преподаване се установи, че за студентите е по-интересно да търсят едновременно в различни бази и да сравняват резултатите, като откриват предимствата и недостатъците на различните бази. Нещо типично за нас, библиотекарите, които сме добили професионалния навик да изучаваме новото, винаги сравнявайки го с вече познати ни библиотечни практики.

Изграждайки методиката за преподаване на информационна грамотност и стремейки се тя да предаде главно практически умения, решихме, че е необходимо да запознаем студентите и със самата библиотека. В този модул обърнахме внимание на нейната история, начин на организация, ценни сбирки и колекции. За да не бъде само теоретичен – лекционен, този модул бе разработен като студентите за кратко ставаха библиотекари и обслужваха свои колеги използвайки вече усвоените знания. За в бъдеще най-изявилите се "младши библиотекари" смятаме да поканим в новосформиран клуб "Приятели на библиотеката".

От проведените до сега занимания може да бъдат направени следните *изводи:*

1. Библиотеката стана позната и предпочитана за работа среда, в която студентите се чувстват уверени и желани. Опитахме се да постигнем т.нар. симетрия на информацията т.е. познанията на студентите за нас и нашата информация за техните потребности да бъде релевантна. Целта бе библиотечната работа да стане прозрачна, а нейните услуги – полезни и търсени. Студентите, преминали през курсовете, се чувстват комфортно в библиотеката, много от тях промениха и начина си на работа, като премес-

тиха част от своята подготовка за упражнения и изпити от своя дом или кафенето в библиотеката.

2. Увеличи се броят на записалите се като читатели студенти. Промени се тяхната потребност от библиотеката. Докато преди те я посещаваха, само за да вземат учебници, то сега предпочитат читалнята, като сами търсят и успяват да извлекат необходимата им информация от многото възможности, които ние предлагаме.

3. Изграждането на информационна грамотност у читателите е обективен процес, чрез този проект ние само катализирахме процеса за нашите читатели.

4. Активната роля на преподавателите, които бяха подготвили своите студенти за ползата от преминаване на такъв курс за бъдещата им дейност, оказа голямо влияние върху успешната му реализация.

5. Занятията се провеждаха в рамките на два учебни часа. В началото на часа студентите – курсисти попълват анкета с три въпроса, свързани с конкретната тема. След лекцията и практическите упражнения, същият лист с въпроси се връща при тях и този път те имат възможност да коригират и отговорят вярно, ако са сгрешили преди. Така още в рамките на двата учебни часа те могат да оценят ползата от курса за тях самите. Въпросните анкетни карти остават у тях за спомен от успешно положените усилия.

6. В тези няколко страници се опитах да предам очарованието от работата ни по този проект, тъй като за нас тя бе едно приключение с много неизвестни. Мисля, че най –важния извод бе този, който направихме за самите себе си. Ние се убедихме , че макар и подложени на агресивен натиск от страна на новите конкурентни медии, библиотеките са нужни на своите читатели, стига да намерят модерна форма за приятелство с тях. Читателската оценка за ползата от преподаденните от нас умения, за нашите знания и компетентност, дадена ни в анонимните въпросници попълнени доброволно от тях, искрено ни зарадва и вдъхнови.

ВМЕСТО ОБОБЩЕНИЕ

Усвояването на научното знание, както и уменията да се издирва и оценява научна информация, може да бъде сравнено с изкачването на Хималаите. По пътя всеки се удря в преградите на своите възможности, но се връща отново и отново, за да премести тези прегради все по-нависоко към върха. На никой алпинист не се издава сертификат, но това не омаловажава усилията му. Така и ние решихме да не издаваме сертификат за завършен курс. Наградата на преминалите е искреното им желание да станат читатели на своята библиотека и да се връщат всеки път за повече информация и знания.

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EDUCATIONAL Testing Service ICT Literacy

EnIL European network on Information Literacy

IFLA - Information Literacy Section

INFORMATION literacy in Europe: a literature review

INFORMATION Literacy Portal (Association of College and Research Libraries)

NATIONAL Forum on Information Literacy

PROJECT SAILS - Standardized Assessment of Information Literacy Skills

S.O.S. for Information Literacy

TILT - Texas Information Literacy Tutorial

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Information Management and Disaster Archives

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Информационен мениджмънт и архиви от бедствия

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ABSTRACT

Information management is a discipline which gives opportunity the collection of every kind of explicit or tacit information source appearing in the result of past activities and experience, sharing it by passing through suitable processes and achieving useful results from them. Disaster is a fact that affects both individual and social lives in negative ways. In order to mitigate these effects the concept of disaster management provides many opportunities. As a result of these processes there are lots of records and information about disaster experiences of communities and to get effective and sustainable disaster management these records and information have to be managed according to the information management approach. In this paper, the role of disaster information centers and systems, in the context of Turkey and the world are evaluated the disaster management, is examined and the status of disaster information centers in both.

Keywords: Disaster information center; Disaster informatics system; Disaster archive; Disaster management

РЕЗЮМЕ

Информационният мениджмънт е дисциплина, която създава възможност за събиране на всякакъв вид преки и косвени източници на информация, появили се в резултат на действия и опит от миналото, за споделянето им след подходяща обработка и използването им за постигане на полезни резултати. Бедствието е факт, който засяга не-

благоприятно живота на отделната личност и обществото. Концепцията за управление на бедствието предлага много възможности за смекчаване на това влияние. Като резултат от тези процеси съществуват много архивни документи и информация, свързани с обществения опит при бедствия. За да се постигне ефективно и трайно управление на бедствията, към тези документи и информация трябва да се подхожда в съответствие с принципите на информационния мениджмънт. В този доклад се оценява ролята центровете и системите за управление на бедствия и се изследва управлението на бедствията и статута на центровете за информация при бедствия в Турция и по света.

Ключови думи: център за информация при бедствия; система за информация при бедствия; архив на бедствие; управление при бедствие

INTRODUCTION

Information management is a management model which effectively manages experience, thoughts, trends and applications in the lives of individuals, institution and society and creates a new synergy by presenting every kind of information source in usage. Information management, which has come to the fore with its roles in the development of organizations until today, is also a management device which can be utilized for solving social problems. Data about every kind of event occurred in social life are important values which can be used in order to found more healthy societies in the future.

Disasters are events which cause violent dangers in a society to pause all or a part of the main functions of social structure (Fritz, 1961). As stated in the description, disaster is a social event and it should be controlled with particular planning. Disaster planning is activities which are needed to do with the aim of providing harms of the disaster to remain in the lowest level in all dimensions of society and preserving every kind of source in the best conditions. Information management approach and information banks that are placed as if one of the main elements of this approach take place among the important components that should be taken into consideration in disaster management. In most of the societies, where disaster data are not collected or usefully utilized, similar events are re-experienced and there can be greater losses. Disaster risk can be avoided by firstly managing, sharing and transforming them into precautions for future disasters and the individual and social experiences which should be recorded in a specific system. In other words, the basis of an effective disaster management is formed with a recording of every kind of local, regional and national disaster and sharing every kind of data about disasters and disaster projects with necessary institutions.

DISASTER MANAGEMENT

Natural and artificial events and the results of them, affecting society by causing physical, economical and social losses and stopping or pausing normal life and human activities, are known as disasters. In order to evaluate an event as a disaster, it is necessary for the event to cause loss in the society, residential areas and affect a region completely or partly by damaging or pausing the human activities (Tudor, 1997, p. 4). The common characteristic of the descriptions of a disaster is the occurring of a physical, social and psychological ruin and loss which could not be overcome for a long time.

In most of the studies and projects carried on, disaster is classified into two groups as natural and artificial. Natural disasters are events occurring suddenly or in a particular time and damaging the course of general life such as production, infrastructure, transportation and communication. Artificial disasters, which are also called technological disasters as concer-

tual, are damaging events created by the modern social life style on natural order. Division of disasters into types is necessary for the studies which will be carried on this field. However, always drawing a definite line between natural and artificial disaster is impossible. For example, the melting of glaciers is gaining speed due to the emission of gas into the atmosphere. Although this event seems to be a natural disaster, its source is dependent on human life. Similarly, disasters types may become varied or change over time. For example, drought, which has increased because of global warming, has become the most discussed matter among the disaster studies in recent years.

Disaster management means managing all social institutions, associations and sources in order to coordinate the works needed to be done before, during and after the disasters with the aim of preventing disaster and reducing their harms. In other words, disaster management is a management approach and specialization field which determines and applies technical, managerial and legal studies which should be done before, during and after disasters in order to prevent the disasters and reduce their harms. (Akdağ, 2002, pp. 5-6). Disaster management reflects using all sources as a body and as coordinated in contending with disaster. Consequently, disaster management is a discipline in which many different disciplines are operated as coordinated. For this reason, disaster management is a wide application area which necessitates the managing of private, legal and public sources for a specific purpose. One of the important corner stones of disasters management is disaster database and archives. Each activity executed before, during and after the disaster would result in information and document production, sharing these sources among disaster responsible people and participators in a complete, correct and profitable way can be possible with managing every kind of disasters data in a system integrity. In order to see what kind of information and document will be preserved in disaster archive systems, it is necessary to look at disaster management and the general purposes wanted to be reached. According to this, purposes of disaster management can be listed as following:

Before the disaster,

- Putting forward the disaster risk probability.

- Forming an inventory of potential sources such as human, budget and equipment which can be utilized against the disaster.

- Making proportional analyses between conjectural risk and potential sources.

- Taking necessary technical, managerial and legal precautions for saving the society with minimum harm and physical losses in the result of analyses.

- Making preparations for rescue, first aid and rehabilitation.

o Preparing educational programmes to the public in order to gain required information to mitigate negative effects of disastrous events.

During the disaster,

- Determining necessary interference precautions.

- Making decisions for removing risk that cause loss of life and property.

After the disaster,

- Making life and property protecting arrangements against second dangers and risks that the disaster may cause.

- Making plans for meeting urgent needs of disaster victims as soon as possible with the most fluent methods.

- Making regulations which can remove economical, social and psychological problems caused by disaster as soon as possible.

- Working for making the life in a disaster region normal.

Looking at the disaster management purposes above, it is seen that disaster works have caused a huge information source. Important and huge information production have made even in works done for only reducing risks. For example disasters risks, precautions preventing risks, potential sources which can be utilized against risks and address information are some of them. Similarly, communication records made during disaster coordination are also among the important data that are produced in disaster applications and should be recorded in archive systems.

Today, disasters are observed and managed by using technology such as early warning systems, damage guessing systems, geographic information systems, disaster coordination systems and various event monitoring systems. Mentioned systems, may have different characteristics according to the type of technology which is used. Of course, document produced in these systems may also have different types and characteristics. For example, numerical photographs, video records, graphics, measurement analyses, sound records, maps and texts are documents which are produced in different type and characteristics. This variety observed in the kind of document and data structure hinders integration of disaster informatics systems and the forming of a disaster archive. In order to solve this problem determining and practicing some standards are obligatory. This obligation is also necessary for providing the usage of available information sources in the future. For this reason, the disaster informatics systems used today should also be evaluated according to the type of information source they produce and arranging methods.

INFORMATION MANAGEMENT

Information management is the approach that is dependent on the basics of revealing and sharing every kind of information source in individual and institutional level. Basic sources of information management are data and information. In other words, information management is a discipline consisting of:

- the smallest corner stone of information datum,

- tacit information which cannot be presented to usage consciously or unconsciously and

- all explicit, recorded, retrieval and sharable information (Geyik and Barca, 2004, p. 431; Özer, Yücel and Seyrek, 2003, pp. 3-4).

In order to express the characteristics and purposes of the information management in a better way, concentrating on *data*, *information* and *knowledge* phenomena and concepts of upper knowledge or ability, which is evaluated over knowledge, is necessary.

Data are raw facts or impressions represented by various symbols, letters numbers and sings. Information is the raw source form transformed after being classified with various data statistical techniques. For example, data are transformed into information by classifying, summarizing or reporting. There is no intellectual effort in the process of the transformation of data into information. For this reason, it is possible to define information as row sources, taking place within the ordered and purposeful groups between data and knowledge, which are needed for the production of information (Prytherch, 2000, p. 370). Knowledge is upper information which comes into existence from information, personal information accumulation and experience. Aktan and Vural (2005, p. 4) define knowledge as a kind of commented in-

formation taking place between rawer information types such as data and information and more complex and processes ones such as understanding-idea-wisdom.

Although a clear separation cannot be made between information and knowledge, it is seen that there are various types shown above knowledge in the literature of this field. These are generally tried to be explained with concepts such as ability, wisdom, idea, intelligence, upper knowledge or specialization. Aktan and Vural (2005, p. 4) define the last information type on the topmost of information pyramid as "experience" which is useful for differentiating true and false in social events (Figure 1). In this event, some persons think that making appropriate decisions in the stages of understanding and comprehension of social events and reasoning are directly proportional to processing of information in a systematic way and reshaping it with observations and experience.
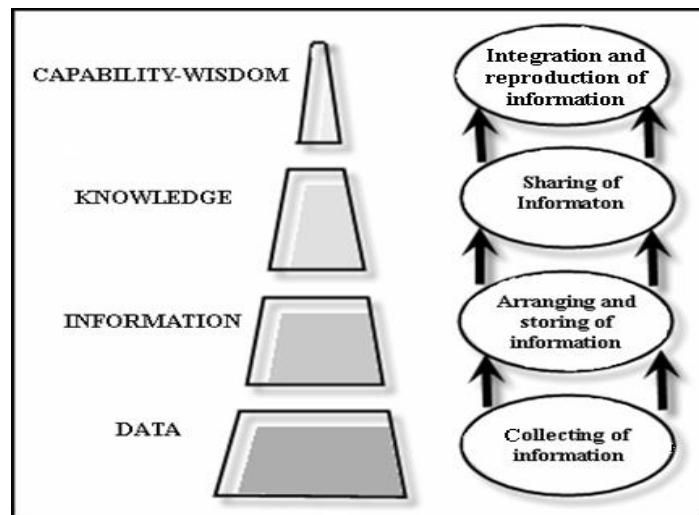
Figure 1: Organizational information sources and process of information management

Information is also divided into types according to the availability level in information management discipline. Information is generally evaluated in two groups as explicit and tacit (Figure 2). Explicit information is information which is not secret, forbidden or limited and it can be easily reached for producing new ones and adding new values to activities. Tacit information can be found in two types as both recorded and also unrecorded. Recorded tacit information is information which is recorded on any kind of information recording devices; however, they cannot be reached and utilized since they have secret, forbidden any limited usage right. Unrecorded tacit information is information which is hard for others to utilize since it is in the individuals' minds. This kind of information both comes out accidentally and it is also revealed consciously by means of a particular system. Unrecorded tacit information consists of information that the individual has without adding a meaning to any phenomenon. Individual knowledge is idea that the individual develops by adding new information and meanings to information.
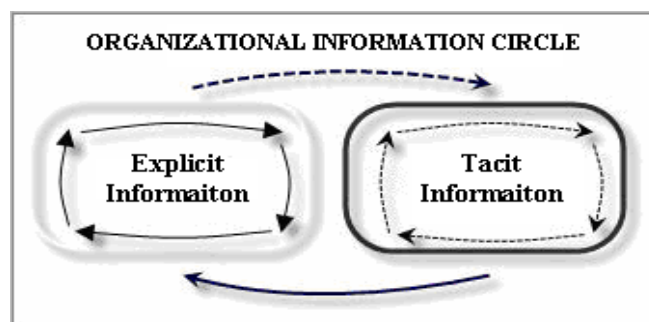
Figure 2: Information circle

The purpose wanted to be reached with information management is transforming tacit information into explicit information. The most important target of information management is providing every kind of available important source to pass through the information management filter regardless of its type, the place it is recorded and with which aim it is produced. Mentioned filter executes separating valuable information from worthless information, delivering information according to personnel portfolios and evaluation pool. The most important purpose of information management is revealing every kind of potential information in the institution, providing easiness of usage and access, and producing new information with the ones taken from the environment. Therefore, the most important factor in information management approach's successful results is the support of the manager and self-sacrifice of the workers.

In national disaster management and disaster informatics system, data about experienced disasters and all personnel and institutional experiences on disasters, beside information and knowledge, should be included. Therefore, it is obligatory to design a disaster informatics system according to the information management philosophy. Disaster informatics systems are systems in which basic components of disasters management like personal, budget equipment, communication and information are managed. The disaster archive system is one of the most important components of disaster informatics systems and mostly it cannot be parted from disaster informatics systems. Especially, the disaster informatics systems which process with real-timed data flow also make archiving function. For this reason, evaluating disaster informatics systems apart from an archive systems do not give correct results. Disaster archive systems are disaster coordination systems where every kind of information about experienced disasters are recorded and presented to the usage of concerned persons and institutions in the national, institutional or local level. Identities of every kind of disasters and details of them are recorded in disaster archive systems. Disaster archive systems are a comprehensive platform where every kind of document such as document, film, project, report produced as printed or electronic about disaster events or studies are preserved, and bibliographical data of these documents are preserved in optic and or magnetic recording places. Although disaster archive systems are designed as a production of informatics applications, the phenomenon that causes this design is the necessity of information, in design of the mentioned systems, information management theory should be accepted as criterion. The system should also be executed according to this theory.

INFORMATION CENTERS IN DISASTER PLANNING AND DISASTER ARCHIVE SYSTEMS

Interfering in disasters in an adequate, ordered, right and determined way can be possible with having every kind of information about the place where the disaster was experienced. Receiving inadequate information about the type and size of the disaster, sending inadequate equipment, rescue teams to the disaster region, not being able to make comparative analyses about the past disaster, are caused by not being able to form a central disaster informatics and archive systems providing real-timed data. Undoubtedly, each country has a different institutional structure and working process in disaster works. It is obligatory to carry on all kinds of disaster plannings and programmes under the management of a central organization which particularly should be national disaster institution in order to prevent disrupting of national and international cooperation because of differences mentioned before.

National disaster institutions serve as a coordination base of disaster works carried on by other institutions. This situation is same for the disaster information centers. Information centers formed with the names of the archive, documentation or library by other institutions should work in coordination with the information center which is founded in the national disaster institution. National disaster information center should fulfill in determining and apply-

ing the minimum common characteristics duties which are needed to be had by other disaster information centers. Furthermore national disaster information centers should carry on works aiming to provide each database and archive system founded for this purpose with similar characteristics.

It is necessary for disaster informatics and archive systems to exchange data with other systems in order to have common minimum standards. As in the other electronic applications in the e-government model, they should also be compatible with common minimum standards. Being open to be shared and reliable of disaster informatics and archive system are characteristics that can only be provided by being compatible with general standards adopted as principles in e-government applications. Therefore, disaster informatics and archive systems should:

• have characteristics that they can share disaster information and documents which have no special security limitations with any person and institution as real-timed,

• provide coordination between information users and managers,

• provide easiness and openness for the relationships of people and institutions in local, regional, national and international levels regardless of being private or public,

• have a structure that will present an integral perception to the ones working with disaster planning.

Norms and standards expose the method providing compatibility between differences. Integrality in disaster informatics and archive systems displays parallelism with the standards which make working of the systems together possible. These standards also cause action slackness in the systems. Minimum standards which should be found in the mentioned systems can be listed as following:

• Metadata,

• Index of subject headings,

• Common data models and files,

• Presentation and retrieval standards.

Metadata is structured description of information which reveals the identity of any kind of information source, shows where it is recorded, makes its retrieval possible and provides controlling for a long time. There are generally both of the printed and electronic sources in disaster information centers. Disaster informatics and archive systems can present both of the two source types in an interconnected way in the same structure. For example, in information centers and the informatics systems used in these centers, various sources such as archive documents, indexes, books and other printed publications in addition to html files, web sites, digital photographs and databases can be preserved. Metadata is the qualification language used in defining and cataloguing every kind of information source. As a result of this, metadata consists of all devices which are used in order to reach the sources whose catalogues are prepared by means of standard definition tips. Catalogue researches are made with retrieval tips defined in metadata.

Metadata is identity which exposes the context, content and structure of document. In other words, metadata is explaining and regulating data which makes controlling, managing, researching, storing and understanding the documents possible for users for a long time. For example, metadata both consists of information about working process such as production, management and storing of documents in many subjects like the heading, type, production date, operation process and also make accessing these documents technically possible (Guidelines, 2001).

Metadata is defining language which has been widely used in identifying every kind of information source with a similar defining pattern. However, subject headings indexes are needed for characterizing similar typed documents on metadata set with the same name. For example, first, terminology unity should be achieved in many subjects such as the types and definitions of all natural disasters, emergency codes, disaster units, risk and disaster categories. Then, a disaster terms index should be formed in a way that will expose the contacts among them. In order to define same kind of documents with similar terminology, this index should be applied in every disaster system. Disaster concepts index is necessary for forming language unity in disaster works and providing retrieval of sources.

Record, presentation and change of information take place among the important functions of disaster informatics functions. Data and file structures should be provided to become parallel to the standards used in e-government applications. The criteria needed to be taken into consideration in determining standards are reducing the necessity of additional software to a minimum level and being dependent on open standards as possible and being open to access of different platforms of preferences. For example, the most suitable standards, which takes place among a compressed file, word process document, presentation document, picture file, electronic table document, animation, real-timed and band recorded sound and video, should be determined for disaster informatics and archive systems. Apart from this, standards should be put in subjects such as internet, e-mail, file transfer, local network/ wide area network access and network security.

The difficulties in electronic data share are one of the most important problems faced in e-government applications. However, if increasing productivity in state life and presenting public service in a more effective way are possible with the sharing of information sources, producing these sources must be produced on sharable data structures, which are accepted as universal criterion. XML (Extensible Markup Language) is the most important sharable data structure which is accepted internationally and widely used in most e-government applications. Taking consideration of data and file type varieties produced in disaster informatics systems, it will not be a wrong evaluation to say that XML is the most suitable data model for disaster informatics systems and archives. Because, XML is a plain and flexible shaping language that is independent from hardware and operating systems (Digital, 2004, pp. 63-64).

Disaster informatics and archive systems should have a free structure which the citizens and institutions, who want to contribute to the disaster works voluntarily and have information about the works, can follow the activities executed in this field. For this reason, mentioned systems should be designed as information centers where people can receive information about avoiding risks and challenging with facts of disaster. The mentioned systems with this feature will have a characteristic being education platform increasing the conscious level of the society in disaster matter.

Late interfering or interfering with the disaster by using wrong methods are the frequent problems of today. A part of these problems stems from not being able to utilize the experience and information accumulation adequately. Totalitarian disaster informatics and archive system should fulfill the duty of sharing past experience among all shareholders of disaster management in the risk reducing and disaster avoiding processes. For this reason, in the mentioned systems an information sharing module should be formed for the managers to transfer their experience to others. This module makes carrying the disaster works in the frame of information management approach possible.

DISASTER INFORMATICS SYSTEM IN THE WORLD

Considering the projects carried on disaster management, it is seen that there are important enterprises on disaster informatics systems in the whole world, first of all in the devel-

oped countries. In recent years, important disaster information centers and disaster databases have been formed in most places in the world. Seeing the studies carried on this field, it can be said that disaster informatics systems have been developing as parallel to e-government applications. Moreover, an important part of the mentioned systems are formed with the aim of meeting the needs of only a specific discipline. In most of the project reports carried on this field, there are also decisions which suppose necessary of uniting every kind of disaster databases and archives, which have been formed until today, on a platform. In order to show the quality of the disaster informatics systems used today, it is necessary to study the systems developed by some institutions which are frequently mentioned in the field of disaster management in the world.

In an announcement The Federal Emergency Management Agency (FEMA) made in 2007, it is stated that a real-timed information share system is needed in order to provide coordination among the institutions in disaster management and this system will be founded in a short time. In FEMA's announcement, it is also stated that the name of this system, which will store national information only in one place, will be Emergency Management Information Management System (EMIMS). EMIMS will play the role of being a coordination center where all institutions can share information during a national crisis. EMIMS will be designed as real-timed automation system which supports national emergency management. The most important characteristic of EMIMS is that it will have automatic process and recording technique in e-government applications and transform the files it takes from the other systems into wide standards (Chan, 2007).

National Incident Management System (NIMS) used by the United States Department of Homeland Security is a system having most of the standards which are compatible with the inter-institutional system integration. However, disaster managing and disaster archive forming are not prior purposes in this system. NIMS was mostly founded for the purpose of security events' coordination. In order to provide cooperation and coordination among the regional and local management units, some similar systems will be integrated in a short time. Inter institutional cooperation systems, education systems, source administration and management systems, informatics systems which collect, follow and report details of events are some of them. Also studies have been carried on in order to get NIMS and other systems have similar concepts, principles, terminology and technology (US Department, 2004, pp. 1-2).

In Japan, the National Research Institute for Earth Science and Disaster Prevention (NIED), have carried on some projects on disaster studies and various systems have been formed in the result of these projects. For example, in NIED many disaster independent systems have been developed such as High-sensitivity Seismograph Network (Hi-Net), Landslide Disaster Prediction Support System (Lapsus), Typhoon Database System (NIED-DTD), Landslide Map Database, Japan Seismic Hazard Information Station (J-SHIS). The mentioned systems provide information in various subjects such as reducing, measuring and analyzing of natural and artificial disasters' risks. However, these systems have not been united as a body yet although they were developed in the same institute (National, 2007).

The situation observed in Australian disaster informatics systems and databases is not different from the other countries. The studies carried on the matters of determining, analyzing, announcing and preserving the experienced disasters are executed by different organizations and independent systems. For example, collecting, arranging and presenting of disaster sources to service of the experienced disasters in country are carried on the portal named Australian Disaster Information Network (AusDIN) of Australian Emergency Management Committee. However, in this portal, there has not been any disaster data yet and the service of real-timed information share has not been presented (Australian…, 2007). The Emergency Management Spatial Information Network of Australia (EMSINA), which is also another system of The Australian Emergency Management Committee, fulfills the duty of sharing risk and disaster data gained by the means of satellite (EMSINA, 2008). There are so many other systems

formed in order to provide support for disaster management in Australia. However, in this country there are problems observed in other countries on the disaster systems' integration.

Today, various disaster informatics and archive systems which present national and international service have been formed in almost every country. For example, the library of The Japan International Cooperation Agency (JIKA) has a disaster archive where data change and source share are made on an international level. But there is no system which executes together with disaster management systems and shares real-timed data. Another system, which serves nationally in disaster management, is the Integrated Public Alert and Warning Systems (IPAWS) in the United States. IPAWS is a system which was founded in order to warn the public and concerned institutions about every kind of emergency by the means of telephones, televisions and computers. IPAWS serves as integrated with similar national systems such as Geo-targeted Alerting System (GTAS), Web Alert Relay Network (WARN), Digital Emergency Alert System (DEAS), Emergency Telephone Notification (ETN) and Deaf and Hard of Hearing Notification System (DHNS).

Disaster systems show a variety within themselves because of the disaster type, application area and user. For example, whereas measure of seismic data is important for the systems designed for earthquakes, observing air motions in the systems designed for the disasters like storm is important. Whereas the following of personal and social events in event management systems used by inner and outer security, the controlling and following of epidemics in health profile systems used by health organizations. Disasters classified as human-originated and natural, are also divided into different subtypes for their application area and research style. These differences, which also reflects the disaster system, obstruct the integrity of the mentioned systems. Common work processes, standard system and data models are needed in order to share every kind of disaster data obtained in different applications in a central disaster informatics and archive system. This purpose can be achieved by having institutional structuring, standard system, and common system and data models.

The table formed on disaster information share and disaster informatics systems in the world as following:

• Disaster systems are formed according to a specific disaster area and integration with other systems are not seen as prior purpose.

• For this reason, most of the disaster systems do not have common standards which can integrate with other systems.

• There is a desire for the integration of the disaster systems, but the concrete studies on this field are not adequate.

• In most of the disaster systems, common data models are not used.

• The studies on collecting and sharing of disaster data in an archive making a central and real-timed archive are quite limited.

• The studies on providing terminology unity and forming subject headings index in the disaster systems are inadequate.

DISASTER MANAGEMENT AND INFORMATICS SYSTEMS IN TURKEY

In Turkey, the management of disaster studies have still been executed by more than one institution. The public institutions which have first degree role and responsibilities in the execution of these studies are of the following: "Prime Ministry Crisis Management Center", "Turkey Prime Ministry General Directorate of Emergency Management", "The Ministry of Interior Civil Defence Organisation", "The Ministry of Public Works and Settlement General

Directorate of Disaster Affairs" and "Turkish Red Crescent" (Akça, 2007). This situation has frequently caused authority and responsibility confusion.

Disaster management is an application area which is executed by inter-disciplines co-operation. In the applications, in which inter-disciplines cooperation are made, the role of central structuring is very important. Central structuring is necessary for carrying on this kind of works from one center in coordination. Therefore, in Turkey important enterprises have been made in order to remove the negative effects of the scattered structure, the controlling and coordinating of disaster works in a center and also executing this activity in only one informatics system. For example, a law draft has been prepared for collecting the institutions which have first degree authority and responsibility in one center. In the draft, disaster management responsibility under the authority of various institutions is turned over to "Disaster and Emergency Management Presidency" which will be founded in the structure of Prime Ministry completely. Also in the presidency of Prime Ministry, a High Committee of Disaster and Emergency are being formed in the structures of Ministries of National Defense, Internal Affairs, Foreign Affairs, Finance, Health, Transportation, Public Affairs and Settlement and Environment and Forest. To the mentioned committee is given the responsibility of forming the national disaster policy and realizing it.

Assignment of various institutions serving under the different ministries and institutions in Turkey to Disaster and Emergency Management Presidency which will be founded in the structure of Prime Ministry is a positive development on this matter. The studies, which have been carried as scattered on this field in Turkey until today, will be under control in a short time. However, a national disaster management center is necessary for managing national disaster data in only one center and system. National disaster information center makes leadership of founding and operating national disaster informatics and archive system which can share real-timed data with every kind of disaster informatics system. In order to meet the deficit, two projects, named Disaster Information System and National Disaster Archive System, have been carried on by The Ministry of Public Works and Settlement General Directorate of Disaster Affairs for a long time. The purpose of a Disaster Information System is providing the integration of every kind of service and responsibility before and during a disaster. Analysis of the disaster risks of residential areas, preparing the risk map, providing coordination with local and central administrative units and recording the experienced disaster data are the basic targets of this project (Hamzaçebi, Koç, Velioğlu and Erdem, 2004, p. 1; Turkey, 2007).

The National Disaster Archive System was founded in 2007, but the system has not been started to be used since the transfer of databases has not finished yet. The purpose of this project is transferring the national disaster inventory and archive information to numerical mediums and presenting them to the service of the decision makers and science world (Afet, 2007). The natural disaster data in Turkey will light the future studies after both of the projects are finished. Another advantage of the projects is uniting all public institutions, which have roles and responsibilities for disasters, on the same system and presenting the collected disaster data to the use of all public institutions. However, these studies are only made for natural disasters. Therefore, there has not been a study carried on managing human-originated disasters on a central system in Turkey yet. Moreover, there is no study on the subject of integration of both systems with other systems. Furthermore, since the mentioned projects have not been finished yet, the deficiency in the archiving of the national disaster data has still been in effect.

Considering the studies carried on disaster management generally, it can be said that Turkey remains behind the developments in disaster management in the world. While collecting the responsibility of disaster management under a central administration is a positive sign, nothing has been done for the standardization of disaster systems until today. Because the national disaster archive sources have not been shared in a central system, the information sources of public institutions such as health problems, social events, landslides, earthquakes and floods are only presented to the service of their own institutions. Since not transferring the

important part of the sources into numerical medium, informatics systems' not giving opportunity to data sharing, and data models', used in informatics systems, being incompatible with the common standards, the national disaster information sources have begun to be tacit information in Turkey.

CONCLUSION

Many disaster informatics systems have recently been formed in the world and Turkey. We can divide these systems into two as disaster informatics systems, which are directly formed for disaster management and the other systems providing data support to disaster informatics systems. Referring to the characteristics of the systems used today, it is seen that disaster informatics systems show differences according to the type of disaster. In other words, each disaster informatics system has differences with respect to the other systems. The other systems giving data support to the disaster informatics systems are the systems which are formed for a special purpose. For example, geographic information system, global positioning system, digital photogrammetry and incident management system are some of them.

The ability of collating and sharing risks and disaster data in the same structure of direct disaster informatics systems and the other systems giving data support to them necessitates dealing with these subjects with a systematic evaluation. Suitable and well-timed sharing of risk and disaster data among the concerned institutions can only be possible with giving disaster management leadership, national and public disaster information centers and disaster informatics systems more appropriate and standard form. The principles, which should be taken into consideration and the steps that should be taken, can be listed as following:

- National disaster coordination centers should be founded in order to organize private and/or governmental disaster institutions, which carry on business in local, regional or national levels, in only one place.

- The legal regulations, which can assign the roles and responsibilities of the mentioned center, should be made in order for the national disaster coordination center to have the power of sanction on the other institutions.

- A disaster information center should be founded in the structure of national disaster coordination center in order to provide the unity among the disaster information centers and determine the standards about disaster informatics system.

- A central disaster archive system, which collects the data from every kind of disaster informatics system used in the country and presents them to usage, should be founded.

- The mentioned system should obtain the data about every kind of disaster in a real-timed way and present them to the usage of other institutions.

- Common minimum standards should be determined in order for electronic systems that all disaster organizations in the country have to share data and every system is restructured according to these standards.

The standards, which should be taken into consideration in every kind of disaster informatics system, are the following:

- The standard of disaster archive interface,
- Data and file standards,
- Sharing standards,
- Metadata standard,
- Terminology standard,
- Projection and retrieval standards and
- Backup and transfer standards.

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Information Literacy and Globalization of Information

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Информационната грамотност и глобализацията на информацията

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ABSTRACT

Nowadays, in the century of new technologies that has proclaimed information to be the most valuable, information literacy is a very important issue. In the digital age, everyone must learn how to utilize the incredible diversity of technologies efficiently and effectively to search for, retrieve, organize, analyze, and evaluate information. The Alexandria Proclamation adopted by the High Level Colloquium on Information Literacy and Lifelong Learning in November 2005 defines information literacy as a means to "empower people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals". Globalization of information, eInclusion policy, the right to information and the need of information literacy programs are parts of the one and same puzzle. The paper defines the role of information literacy in this age of globalization of information and identifies the problems that have to be solved.

Keywords: *ECDL/ICDL; Information literacy; Globalization of information; Digital divide; eInclusion; Access to information*

РЕЗЮМЕ

Днес, във века на новите технологии, когато информацията се посочва като най-ценния ресурс, информационната грамотност играе водеща роля. В дигиталната епоха всеки трябва да се научи да използва ефикасно и ефективно голямото разнообразие от информационни и комуникационни технологии за търсене, намиране, организиране, анализиране и оценяване на информацията. В Александрийската декларация, приета през 2005 г. на Колоквиума на високо равнище по информационна грамотност и учене през целия живот, проведен в Библиотека „Александрина", информационната грамотност се определя като „възможност на хората с различно обществено положение и занятие ефективно да търсят, оценяват, използват и създават информация с цел постигане на техните лични, социални, професионални и образователни цели". Глобализацията на информацията, защитата на правото на достъпа до информация, политиката за е-Включване (e-Inclusion) и необходимостта от придобиване на информационни компетентности (информационна грамотност) са различни елементи на един и същи „пъзел" и са взаимосвързани помежду си. В доклада се разглежда ролята на информационната грамотност в епохата на глобализацията на информацията и се дефинират проблемите, които предстоят да се решават.

Ключови думи: *информационна грамотност; глобализация на информацията; дигитално разделение; дигитално включване; достъп до информация.*

През последното десетилетие сме свидетели на експанзивното развитие на информационните технологии и комуникациите, което доведе до глобализация на информацията и една нова „революционна вълна" - информационната.

Глобалното свързване чрез Интернет, дигитализацията на информационните масиви и появата на нови средства за управление и използване на информационните ресурси наложиха необходимостта от придобиването на нови компетентности и умения.

Дигиталната информация навлезе във всички области и стана неразделна част от нашето ежедневие, като по този начин изправи много хора пред опасността от „дигитално изключване" (e-exclusion).

Случващото се „тотално информационно свързване" по своята същност предлага много различни възможности, но представлява заплаха за обществата, които не са в състояние адекватно да отговорят на новите предизвикателства.

Така, застрашени от „изключване" са онези групи, които поради различни причини - ниски доходи и бедност, липса на ИКТ-инфраструктура, недостатъчни познания и възможности за обучение или затруднен достъп поради тяхното неравностойно положение - не могат да се справят с новите реалности.

Премахването на пространствените (географски, геополитически) граници посредством информационните и комуникационните технологии, от една страна, спомага за по-равномерното разпределяне на ресурсите и знанията и генерирането на нови продукти и услуги за гражданите по един по-гъвкав начин, но от друга страна „изгражда" нови бариери.

Всяко ограничаване на достъпа до информация, било то като резултат от глобалното информационно свързване и настъпващите промени или поради други причини, е нарушаване на човешките права и е проблем, който засяга всички членове на обществото.

Още на първата си сесия, през 1946 г. Генералната асамблея на ООН приема единодушно *Резолюция 59(I)*[1], в която се казва: *"Свободата на информацията е основно човешко право и ... мерило за всички свободи, на които е посветена ООН".*

Достъпът до информация е основно право на всеки човек, което е защитено от редица международни актове. Така например чл. 19 от *Всеобщата декларация за правата на човека*[2] от 1948 г. гласи, че „всеки човек има право на свобода на убеждение и на изразяването му; тази свобода включва правото безпрепятствено да се придържа към своите убеждения, както и *правото да търси, да получава и да разпространява информация и идеи чрез всички средства и без оглед на държавните граници.*"

Това право се урежда и от *Международния пакт за граждански и политически права от 1966 г.*[3], а също така е залегнало и в *Препоръка R(81)19 на Комитета на министрите на Съвета на Европа*[4] от 1981 г.

В разпоредбите на *Европейската конвенция за правата на човека и основните свободи*[5] от 1998 г. отново е застъпено правото на достъп до информация, както и в чл. 11 на *Хартата на основните права на Европейския съюз (2007/C 303/01)*[6], където се казва, че „всеки има право ... *да получава и да разпространява информация и идеи без намеса на публичните власти и независимо от границите.*"

Също така някои от водещите европейски инициативи, свързани с информационните и комуникационните технологии (ИКТ), са насочени към подобряване на „качеството на живота" и предоставянето на технологии за осигуряващи достъп на всички до мултимедийната и многоезичната информация:

- *„Електронна Европа"[7] (2000)* - една от основните цели, поставени в този план е „да се осигури достъп до Интернет на всички граждани, домове и училища, бизнес и административни центрове";

- *Европейска програма за култура в ерата на глобализацията (2007)[8];*

- *Действията за преодоляване на географското и социалното „цифрово разделение" (digital divide)[9];*

- *Европейска Инициатива за е-Включване (e-Inclusion) (2008)[10];*

- *„Европейско информационно общество 2010" – петгодишната инициатива i2010 посочва политиката за е-включване като един от нейните три стълба.*

Стратегическото предизвикателство пред Европейската информационна политика е да оползотвори напълно потенциала на ИКТ за преодоляване на традиционните форми на „изключване", като едновременно даде възможност на всички граждани да се възползват от технологиите и услугите на информационното общество. Това означава да се осигури достъп на всички социални групи до ИО, особено на тези, които са заплашени от отпадане от равноправно участие в него.

Именно затова и едни от основните приоритети на Европейските политики за е-Включване (e-Inclusion), гражданство (citizenship) и информационна грамотност (digital literacy) са насочени към преодоляване на т. нар. цифрово разделение.

Глобализацията на информацията, защитата на правото на достъпа до информация, политиката за е-Включване (e-Inclusion) и необходимостта от придобиване на информационни компетентности (информационна грамотност) са различни елементи на един и същи „пъзел" и са взаимосвързани помежду си.
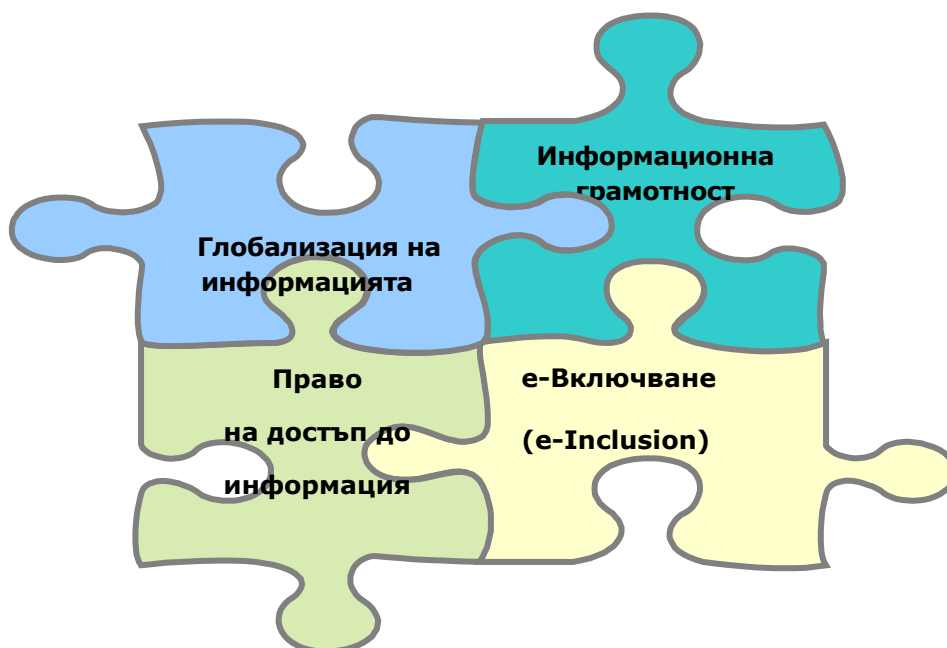
Информационната грамотност се налага като концепция през последните няколко години и е заложена в много международни проекти, програми и инициативи, които имат задачата не само да популяризират информационната грамотност, но и да я

пропагандират като едно от възможните решения за преодоляване на „дигиталното разделение" (digital divide).

В *Александрийската декларация[11],* приета през 2005 г. на Колоквиума на високо равнище по информационна грамотност и учене през целия живот, информационната грамотност се определя като ***„възможност на хората с различно обществено положение и занятие ефективно да търсят, оценяват, използват и създават информация с цел постигане на техните лични, социални, професионални и образователни цели."***

Преодоляването на „дигиталната пропаст" и проблемите, произтичащи от недостатъчното познаване и владеене на компютърни умения, налагат и въвеждането на уеднаквени модели за обучение и тестване.

Така, в началото на 90-те години се популяризира *Европейският международен сертификат за компютърна правоспособност (The European Computer Driving Licence/The International Computer Driving Licence (ECDL/ICDL)[12].*

ECDL/ICDL е безспорно най-разпространеният измерител на компютърни умения в Европа и в света към момента и се ползва в над 140 страни, като е преведен на 38 езика.

В процеса на своето утвърждаване и налагане като единен стандарт, Европейският сертификат за компютърна правоспособност преминава през няколко важни етапа:

- ***1994 г.*** – Финландското компютърно общество констатира потребностите на икономиката и разработва седем модула за разпространяване на медийна компетентност.
- ***1995 г.*** – CEPIS (Council of European Professional Informatics Societies) – Съветът на европейските професионални информационни общества подхваща концепцията и я доразвива в своя работна група.
- ***1996 г.*** – Създава се самостоятелна организация - ECDL Foundation.
- ***От 1996 г. до 2001 г.*** – ECDL успешно се въвежда в Швеция, Австрия, Ирландия, Дания.
- ***2004г.*** – Въвеждане на подобрени версии на сертификата от Южна Африка до Финландия и от Дубай до Китай.
- ***2005 г.*** – Над 4 млн. души в Европа се обучават за придобиване на ECDL.
- ***2006 г.*** – Стартира проект ECDL /Европейски сертификат за компютърни умения в България/
- ***2008г.*** – Над 7 млн. граждани на Европа вече са преминали през обучението и са придобили ECDL.

Европейският сертификат за компютърна правоспособност дава свидетелство на крайния потребител на Интернет за базисни компютърни познания и основи на информационните технологии. Програмата на ECDL функционира в седем основни модула[13]:

- ✓ *Модул 1 „Основи на информационните технологии"*
- ✓ *Модул 2 „Ползване на компютър и управление на файлове"*
- ✓ *Модул 3 „Компютърна текстообработка"*
- ✓ *Модул 4 „Работа с електронни таблици" или „Таблична калкулация"*
- ✓ *Модул 5 „Бази от данни"*
- ✓ *Модул 6 „Презентации по мрежата"*
- ✓ *Модул 7 „Информация и комуникация: Увод в Интернет"*

Значението на категорията „информационна грамотност" се засилва в модерната информационна епоха, особено в научното и професионалното ежедневие.

В заключителния доклад на Комитета за информационна грамотност към президента на Американската библиотечна асоциация е дадена следната обобщена дефиниция за информационна грамотност: „*За да бъде човек информационно грамотен, трябва да е в състояние да разпознае кога има информационна потребност, да има вещината да определи местонахождението, да оцени и да използва ефективно необходимата информация. Информацията може да бъде представяна в голям брой формати, но терминът „информация" се отнася повече за написаното и отпечатаното слово. Другите грамотности като визуална информация, медия, компютър, работа в мрежа и други се подразбират косвено като медийна компетентност".*[14]

В контекста на глобалното информационно свързване и обмена на информация достъпът до информация е основно право на всеки гражданин в информационното общество, а придобиването на компютърни умения и компетентности е необходимост.

Днес, в епохата на дигиталната информация, всеки трябва да се научи да използва ефикасно и ефективно голямото разнообразие от информационни и комуникационни технологии за търсене, намиране, организиране, анализиране и оценяване на информацията.

Визирайки този факт, можем спокойно да твърдим, че придобиването на информационна грамотност вече е задължителен елемент от нашето CV.

Осъзнаването на необходимостта от „учене през целия живот" и овладяването на компютърни умения, за да станем грамотни, информирани и знаещи граждани, имат фундаментално значение за преодоляването на „цифровото разделение" и за дигиталната интеграция на отделните държави.

Вместо заключение ще цитирам част от Александрийската декларация, в която се казва, че информационната грамотност „*предоставя ключа за ефективен достъп, използване и създаване на съдържание в подкрепа на икономическото развитие, образованието, здравеопазването и услугите за хората, както и на всички останали аспекти на съвременните общества.*"

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Cultural Information Literacy in Libraries: Know-how Transmission in the Network Society

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Културна информационна грамотност в библиотеките: Предаване на ноу-хау в условията на мрежово общество

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ABSTRACT

The paper discusses the idea of cultural information literacy (CIL – or cultural literacy) against the concept of cultural competencies, referring to anthropological, social, and personal development/ entertainment dimensions. It argues why CIL is an indispensable know-how in the network society, as defined by Manuel Castells. The author presents also the potential of libraries in developing CIL (resources, cultural heritage, information skills), and their role as public institutions transmitting human record in the modern society.

Keywords: *Culture literacy; Information literacy; Librarians' competencies; Network Society*

РЕЗЮМЕ

В доклада се разглежда идеята за културна информационна грамотност (CIL – или културна грамотност) съпоставена с идеята за културни компетентности, отнасящи се до измеренията на антропологичното, общественото и персоналното развитие или забавление. Доказва се, защо културната информационна грамотност е незаменимо ноу-хау в условията на мрежовото общество (според определението на Manuel Castells). Авторът представя и възможностите на библиотеките за развитие на културната информационна грамотност (ресурси, културно наследство, информационни умения) и тяхната роля като обществена институция, която пренася културното наследство на човечеството в съвременното общество

Ключови думи: *културна грамотност; информационна грамотност; компетенции на библиотекарите; мрежово общество*

INTRODUCTION

DEFINITION OF THE CULTURAL INFORMATION LITERACY CONCEPT

There is a strong belief of the significance of information literacy today. A lot has been written about its role in the development of a modern society (Lau, 2008). In a broad trend of

developing information literacy, specific skills for different domains of human life have been separated, like: health, economic, or citizenship information literacy (Gardner, 2005). Referring to two (of many) important and dynamic features of the modern society, which are: it's multiculturalism and increasing amount of leisure time (accompanied by increasing amount of entertainment offers), let's try to define the specific concept of cultural information literacy (CIL) or culture-sensitive information literacy in regard of general public – recipients of cultural offer rather than the professionals in this field.

A few dimensions can be indicated in regard of information literacy within culture, depending on different understanding of the idea of culture. R. Williams (Williams, 1976) proposed 4 aspects of culture. The first one refers to an "elite culture", related usually to art and civilization. The second includes the idea of culture as norms and guidelines being abided by people. The third consists of intentional cultural artifacts, like books, films, computer games, etc. The last one defines culture as a lifestyle of a group of people, how they think, understand, feel, believe, etc. This differentiation will be followed below.

Those who enter a new culture group require information concerning many aspects of everyday life, of common and extraordinary relations and situations. One shall be able to interpret interpersonal communication in both verbal and nonverbal aspects, typical manners of media usage. He/she should also be aware of the importance of selected information sources and information behaviours being used in a local community. Cultural information literacy in a cultural dimensions as a set of standards and a lifestyle can then be defined as a set of skills in searching, selection, and analysis of information resources concerning and/or used by a given (ethnical/national/social, etc.) cultural group, considered as reliable and valuable. It shall also include proper usage/application of selected information. The concept includes awareness of differences in contents, meanings, significance, sensibility, and acceptance (not only tolerance) for the differences, awareness and knowledge of the differences in verbal and non-verbal communication. The effect of developing CIL shall be a consequent building of tacit knowledge, based on instructions and experience, of how to find verified, reliable information sources, both formal and informal.

Cultural information literacy referred to art, civilization, and artifacts can be defined as a narrower set of skills in searching information (in electronic or printed versions) concerning particular offer and services of cultural institutions, including books, films, theatre plays, concerts, fine arts, tourism, performances, etc. Cultural information in tourist aspect seems to be more complicated, as refers to multidimensional context of local/ regional culture (language, architecture styles, hand-made crafting, kitchen, arts, etc.) and its reception by the foreigners.

CULTURAL USER IN THE NETWORK SOCIETY

Today an information user lives in the network society, as defined by Manuel Castells in his "Information Trilogy" (Castells, 2000ab, 2004). According to this author, such a social formation has developed (in late 60ties – early 70ties of the 20^{th} century) thanks to three historical processes, including: rapid development of ICTs, crisis and reforms of political and economic systems, and new social cultural movements, connected with feminism, ecology, and human rights. Mutual interactions of these processes have resulted in important changes in social life (network society), economics (global information economy), and culture (culture of real virtuality), further causing structural changes in so-called production relationship, power relationship, and experience relationship (as defined by Castells).

Castells defines culture of real virtuality as a *system, in which reality itself (i.e. material/ symbolic existence of people) is completely immersed in the world of virtual images, where symbols are not only metaphors, but consist of real existence* (Castells, 2000a, p. 381).

Culture of real virtuality then assumes culture of continuing education, both formal and informal, implies the role of ICT and media literacy, and the role of virtual sphere in everyday life.

The key condition of entering social network is knowledge (and usage) of the same culture code. Cultural codes are being produced and distributed by the network informal authorities: decentralized social movements (feminism, ecology, human rights, sexual freedom, antiglobalism), developed in effect of patriarchy collapse, changes in family models (Castells; Habermas, 2007), and people's searching for new experiences and relations. Culture as a source of power, and power as a source of capital, make foundations of a new social hierarchy in an information age. In fact knowledge of cultural codes requires continuing education in culture from either members of a cultural group or (in particular) permanent and temporal immigrants. Using different cultural codes leads to social exclusion (and e-exclusion as well), requiring mutual efforts of those excluded and public institutions (including libraries) to return a human being to the society. The network society, according to Manuel Castells, is obviously multicultural, and opened for new members (*hubs*), which however shall be able to cope with founded binding cultural codes. Developing cultural competencies requires permanent contact with cultural phenomena and artifacts in social real and virtual nets.

Cultural information literacy is considered as a tool of decreasing the risk of social and electronic exclusion. It improves understanding of a culture itself, and ability to incorporate a "know-how" to use culture for one's benefit, including personal development and potential as an active network society member (in particular – a qualified employee). Cultural information literacy can be then considered as a key to a network society. It is an indispensable know-how of how to live in this real/virtual world.

CULTURAL INFORMATION LITERACY AS A SET OF SKILLS

According to definitions of CIL proposed above, it shall consist of either universal or specific skills, characteristic for special, advanced IL (Basili, 2008). The first group consists of the skills indispensable for any communication, regardless its subject, like the competence of receiving and interpreting communicates regardless their form and transmission channel, the ability of searching, analyzing and selecting information sources regarding their reliability, validity and value, or knowledge and application of searching patterns regarding both real and virtual information sources. Media literacy is also of crucial character, to facilitate usage of media tools for contact with cultural phenomena, artifacts, entertainment, etc. The effect and condition of teaching information literacy in general shall also be a pro-educational attitude, readiness to receive and accept new knowledge and skills, to change/adapt one's beliefs, opinions, and behaviors.

The set of skills in cultural information literacy regarding cultural artifacts consists of (including the above mentioned):

- A fundamental knowledge (orientation?) of how an entertainment industry and cultural institutions work and what they offer to the public

- An attitude of being an active participant of cultural life, not only consuming cultural goods, but experiencing them, discussing, influencing individual personal development (Habermas, 2007)

- A competence of planning personal and/or group activities in a specific time scale (like booking tickets for cultural events)

- Interpretation of the announcements and reviews of cultural events and products (films, plays, books, etc.)

• Knowledge of basic information sources, like cultural and entertainment portals, searching engines and catalogues of institutions of culture (museums, libraries, archives)

• Reading maps

As Habermas wrote (2007, pp. 315-320), consuming culture weakens the latter and lowers its quality. Skilled reception improves the skill itself, but consuming without cognition causes that experiences neither aggregate nor develop knowledge, but simply vanish.

Competencies in cultural tourism include attitudes and skills comprising these listed above and some of those which shall be assigned to CIL in general. A curiosity is indispensable regarding a new culture in its different aspects, however this curiosity is not accompanied by pressure or necessity, characteristic for the immigrants who have to learn how to live in a new social circumstances. The tourists are curious, but in fact they do not have to adapt to a new community. They have their way back home open, with an expectable time horizon.

Specific cultural information literacy as a know-how consists (in addition to universal IL skills) of such elements, like:

• Permanently improved knowledge of one's own culture and language (developing competencies in understanding culture and general, and "practicing" language creativity – unexpectedness of linguistic connections, associations, and metaphors)

• Open-mindedness and positive attitude towards "the others" (as members of culture groups different from one's own)

• Understanding/ reflection on culture in general

• Knowledge of cultural differences and specifics

• Understanding contexts as a source of meaning, the role of social networks and information horizons in human information behaviors (Sonnenwald, 1999)

• Mapping domain information (Basili, 2008)

• Usage of specialist searching tools (Basili, 2008)

• Reflective usage (critical analysis and selection) of information sources, and information, regarding their validity in the light of criteria of local/ regional culture

This set of knowledge, skills and attitudes leads to using the same information sources as the locals, and copying their information searching patterns, to receive similar results, and in the effect – to understand why they do what and how they do. Trust is a condition to change one's habits, and in the effect of observation and practice – to get knowledge why the others behave in their own, specific way.

That is from "a newcomer" point of view. The CIL teachers (librarians) however, during an education interaction, shall also consider and adapt teaching process to cultural specifics represented by their students, revealed in language (naming facts, selection of metaphors), nonverbal communication (behaviors, gestures, eye contact), hierarchy of values (questions, stories), etc.

LIBRARIES' POTENTIAL IN CIL EDUCATION

Libraries belong to the group of institutions engaged in developing information literacy of the users, together with schools or health units empowering their clients with indispensable IL competencies. They also play an important role in transmitting human records/ cultural

heritage (Gorman, 2007). These two functions entitle them to provide specialist CIL education. Libraries offer education and developing cultural information literacy based on their resources, professional competencies, and cooperation with other institutions of culture and education. Let's have a closer look at them.

Libraries collect and offer resources in all available formats, referring to documents' categories and users' needs. Their collections shall concern local culture (including minorities), mirroring societal diversification (Multicultural, 1998). They are developed according to the needs of different demographics and language groups. The other, at least equally important assets of the libraries are their representatives – librarians (or information professionals), who can benefit from their knowledge and experience in teaching CIL. They are equipped not only with theoretical knowledge concerning the role and usefulness of information in modern society, but also they can share their experiences in effective searching strategies and finding reliable information sources. In an ideal place, they also represent minorities living in a local community in a library team. Obviously, library services being improved permanently require continuous professional development of the librarians, in regard of their LIS knowledge, creative attitude, critical analysis, exchanging experiences with the others. In particular regard of CIL instructing, they require trainings in: teaching skills, ICT, self-organization, and knowledge of current available information sources. Access to information more and more often requires ICT competencies and using the Internet, as a platform for individual searching for those who can do it by themselves, or for assisted navigation – for those who cannot. The above assumes also librarians' ICT proficiency.

Libraries, together with other cultural institutions (in particular, but not limited to, museums and archives), participate in a network of entities providing access to cultural heritage and information. They share responsibility for cultural heritage accessibility, which moves them to develop standards, technologies, and cooperation in regard of metadata, digitalization of collections, common projects.

Important is also their role as meeting (Audunson, 2006, Varheim, 2008), public (Habermas, 2007) or societal (Eigenbrodt, 2008) places, where the users can contact with each other, develop their communication skills, experience local specifics, learn different behavioral patterns, discuss their beliefs, and become "information practitioners." Libraries as societal places take part in developing active members of the society, not only "consumers of culture" passively receiving easy communicates of popular culture. Passive consumers are not partners and equal participants of the network society; as they do not use volitionally cultural codes. As Sole and Pinen wrote, *we believe that the public library, being as it is a facility of proximity, can act as a reception point for immigration; a space of integration for the new reality; promoter of the necessary cultural diversity and enriching for all; and facilitator of social cohesion* (Sole & Pinen, 2008).

The libraries' potential described briefly above can be "translated" into numerous tasks. A few of them include:

• Awakening users' interest in differences, through particular cultural offers and information services

• Equipping immigrants with basic knowledge of local cultural information sources

• Training in ICT skills (regarding also increasing significance of culture values and symbols in a virtual world)

• Being a place of free discussion – exchange of beliefs and ideas, information acquired individually (communication practice)

• Organizing trainings and meetings helping in better integration

- Implementing and developing standards of cooperation with other cultural institutions (metadata, terminology)

- Introducing Web 2.0 solutions into library services, based on the theory of conversation (Lankes, 2007)

  - Monitoring users' competencies and needs (users' blogs, commentaries, tags, questions)

  - Offering cultural information concerning local events and products available

  - Transmitting elite culture into a modern society

Development of the users' cultural information literacy is realized also indirectly. Not only in face-to-face contact or e-learning, but also in helping the users to gain their goals, like managing family heritage and know-how, take care for home libraries, find documents concerning family history and genealogy, etc.

CONCLUSIONS

Cultural information literacy in the network society is an indispensable competence of finding and using information needed for successful, flexible adaptation and living in a new community. It is based on three pillars: knowledge of one's own culture, open-mindedness and curiosity, and ability to copy information seeking behaviors of local inhabitants (even if they seem to be unattractive or old-fashioned).

Observing one's own as well as the others' information seeking patterns and values can make people more culturally-sensitive, and better prepared to living in the network society. However, it is also accompanied by a few dilemmas, like for example: can objective and cultural information be compared regarding their value? In which situations? What are cultural differences in decisions on adequate usage of information?

Among the perspectives of cultural information literacy, there are those valid for information literacy in general, like moving from the competence in selecting and using information sources to critical thinking and analysis, information awareness. Competence in decoding communicates is particularly related to culture – its preferred forms (including spatial, visual, statistical etc. data) and contents of communication. The users' are to be taught how to be an independent information seeker, in particular in a virtual environment.

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Adding Local Content to Europeana

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Добавяне на локално съдържание към Europeana

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ABSTRACT

This paper describes EuropeanaLocal, a major 3 year Best Practice Network project funded under the eContentplus program of the European Commission, starting on 1 May 2008 which will improve the interoperability of the digital content held by regional and local institutions and make it accessible through the new Europeana service of the European Digital Library and to other services. There is a pressing need to involve Europe's network of local and regional libraries, museums and archives more extensively in making the enormous amount of digital content that they hold available through Europeana. Such involvement will bring together a rich diversity of content of all types, cultures and languages making it possible to establish integrated services with great richness and adding value for communities and individual users. EuropeanaLocal will work with the EDL Foundation to establish efficient and sustainable processes through which local and regional institutions can easily make their contents available to Europeana during and after the project, adopting and promoting the use of its infrastructures, tools and standards, as specifications emerge, especially OAI-PMH repositories and Europeana Metadata Application Profiles initially, but moving forward to semantic web technologies later. EuropeanaLocal builds on existing multiplier networks of local institutions to bring together a consortium that represents 28 countries with broad ranging experience of the cultural sector, digital libraries, standards and aggregation services. EuropeanaLocal will make over 20 million items of digital content available to Europeana. The expected results include the establishment of a network of regional repositories that are highly interoperable with Europeana, an integrated Europeana-EuropeanaLocal prototype service and the development of thematic areas for Europeana services which integrate content from both the national and the local/regional level.

Keywords: European Digital Library; Europeana; EuropeanaLocal; Local and regional content; Cross-domain

РЕЗЮМЕ

Докладът описва големия тригодишен мрежови проект за добра практика EuropeanaLocal, който започва от 1 май 2008 година и е финансиран от Европейската комисия по програмата eContentplus. Този проект ще подобри оперативната съвместимост на дигиталното съдържание в регионалните и локалните институции и ще го направи достъпно през новата услуга на Европейската дигитална библиотека Europeana и чрез други служби. Особено наложително е европейската мрежа от локални и регио-

нални библиотеки, музеи и архиви да бъде включена активно в предоставянето на достъп чрез Europeana до огромното количество дигитално съдържание, което те притежават. Това участие ще събере богато разнообразно съдържание от всякакви видове, култури и езици и ще създаде условия за изграждане на съдържателно интегрирано обслужване от полза на общности и на отделни потребители. EuropeanaLocal ще работи с фондацията Европейска дигитална библиотека за установяване на ефикасни и трайни процедури, чрез които локалните и регионалните институции могат лесно да предоставят своето съдържание на Europeana по време на проекта и след това като приемат и популяризират използването на нейните инфраструктури, инструменти и стандарти в съответствие с необходимите им спецификации. Това отначало важи особено за репозиториумите OAI-PMH и за профилите за метаданни към приложенията на Europeana, по-късно и за прехода към мрежовите технологии на семантичната мрежа. EuropeanaLocal надгражда съществуващата разрастваща се мрежа от локални институции, за да изгради консорциум, представящ 28 страни със значителен опит в културния сектор, дигиталните библиотеки, стандартите и споделеното обслужване. Чрез проекта EuropeanaLocal повече от 20 милиона единици дигитално съдържание ще бъдат достъпни за Europeana. Между очакваните резултати са изграждане на мрежа от регионални репозиториуми с висока степен на оперативна съвместимост с Europeana, прототип на интегрирано обслужване между Europeana и EuropeanaLocal и разработване на тематични области за услугите на Europeana, които да интегрират съдържание от национално и от локално/регионално ниво

Ключови думи: Европейска дигитална библиотека; Europeana; EuropeanaLocal; локално и регионално съдържание; крос домейн

INTRODUCTION

The development of the Europeana service of the European Digital Libraries Initiative, designed to increase access to digital content across four identified key domains (libraries, museums, archives and audio/visual archives), is now gaining momentum. The first prototype service will be launched to Commissioner Viviane Reding to the Council of Ministers in November 2008. This progress is paralleled in some countries by work co-ordinated at national and regional level to integrate access to cross-domain content.

However, there is a pressing need, not least in order to achieve Europeana's 2010 content target of 6 million items, to also make available the enormous amount of digital content provided by Europe's cultural institutions at local and regional level alongside that held at national level and by doing so, to extend the institutional base of content providers to involve more extensively Europe's network of museums and archives as well as libraries. Such a process will bring together and link up heterogeneously sourced content which is complementary in terms of themes, location and time, making it possible to establish integrated services with greater richness and complexity. Such a development will also add value for users by linking the digital content brought on stream through EuropeanaLocal with content with local and regional relevance held by national level institutions. These are the goals of EuropeanaLocal: a Best Practice Network under the eContentPlus program to make available locally-sourced digital content to the Europeana service.

KEY CHALLENGES

A major challenge in achieving these goals is that the digital content addressed by EuropeanaLocal is very widely distributed and heterogeneous, held in a wide variety of media,

maintained in many different data formats and described by a wide variety of metadata schemas. This issue is related to the way in which users currently interact with the network of content providers and distributed collections of digital objects. Models can range from an environment where autonomous digital libraries are federated or accessed through unified interfaces at one end of the scale or managed approaches where metadata and/or the actual objects are aggregated in one or more portals and services are based on service agreements between cooperating providers, or ones in which are simply made available through individual websites.

In order to address this challenge, a clear and direct route needs to be established for local institutions to enable their content to be used within Europeana. In addition to making accessible, in the shorter term, high- value digital content held by a variety of cultural institutions from least one locality or region in each member state) plus Norway, EuropeanaLocal will set in place, test and promote the use of a consistent Europeana-compliant execution environment through technical and governance structures in such a way that the myriad cultural content generators from localities across Europe, can easily 'plug in' their item-level content in future. The establishment of a pan-European infrastructure of this kind will not be achieved overnight. But it is of great importance that a start is now made so that a visible de facto standardization of approaches can be achieved and a snowball effect created in the interests of users and public and private service providers across all member states.

A different challenge concerns the need to create the conditions for building upon the thematic richness and geographic diversity of Europe's cultural traditions and social identities. The expected convergence of rich digital content within Europeana will enable, beyond federated search mechanisms and access to individual digital collections, intelligent semantic and geographic exploration and retrieval functions. In this context, the ways in which Europeana interacts with the semantic and technical infrastructure being developed for the Semantic Web are highly relevant, both in terms of identifying which Semantic Web activities need to be considered in terms of standards and interoperability and which are relevant to implementation e.g. the Resource Description Framework RDF, the Web Ontology Language (OWL) and Simple Knowledge Organization Systems (SKOS).

The content provided through EuropeanaLocal and the user base of local/regional institutions will provide an important test bed in this respect, ensuring that approaches and standards developed to enrich semantic interoperability and improved search facilities at 'central' Europeana level are supported by the knowledge gained from flow of data from local digital collections across Europe. Likewise, EuropeanaLocal partners will be well positioned to contribute to the enrichment by means of semantic and geographic metadata (annotations), in a framework of generally agreed conceptual and spatial conventions, as these come on stream through the work of Europeana.Net Thematic Network (formerly known as EDLNet) and beyond.

STANDARDS, TOOLS AND INFRASTRUCTURE

EuropeanaLocal will ensure in general that the approaches, standards and tools developed by Europeana (e.g. through Europeana.Net) are adopted widely, thereby supporting the interoperability of content within Europeana beyond that which is held by purely national level institutions. The participation of The EDL Foundation as a partner in the consortium will play a valuable role in ensuring that there is the strongest possible linkage between the technical standards and infrastructural work being carried out by Europeana.Net and related activities: for example, by making available tools such as its metadata 'installer' and automated metadata conversion tools for use by EuropeanaLocal partners. This linkage will

also support the development of a sustainable business plan which is hospitable to the long term participation of a rapidly increasing number of local and regional content providers.

In general, this will involve the establishment of a harvestable network of OAI-PMH compliant metadata repositories, aggregating content at a level which makes sense in terms of the diverse demographics and digital content holdings of Europe's municipalities, regions and localities and which complements the existing and planned Europeana network.

A number of recommendations have begun to emerge through the initial work of Europeana.Net, providing early guidance on its functional scope and the minimum interoperability criteria by 2008. Those being addressed include:

- User Requirements

- Object Models (Granularity and Structure)

- Persistent Identifiers

- Metadata/Packaging Standards

- Service Description Framework for Service Registry

- Licensing Policies

- Authentication Data Exchange

- Basic Semantic Interoperability

- Interoperation of Europeana and other services on the web (Google etc.)

In addition, the following areas have been identified as elements needing clarification in the longer term, probably beyond the delivery of Europeana prototype service in autumn 2008 but many of which will become relevant to implementation within the proposed duration of EuropeanaLocal (2008-11). These include:

- Object Modeling (Granularity and Complexity)

- Authorization (role models and role semantics),

- Usage Logging

- Accounting, Payment

- Legal and Access Protection Issues (IPR / Rights / DRM)

- Advanced Semantic Interoperability (Concepts / Ontologies / Rules / Reasoning), including mapping to object modeling standards

- Name Authority Services

- Multilingualism of Content

- Service description as a basis for service integration

- Technical and economical sustainability

- Preservation Aspects

THE EUROPEANA SERVICE

For the Europeana interface to be fully usable and to offer an attractive range of services, the data that cultural heritage institutions currently hold in proprietary databases needs to be made available for harvesting via the OAI-PMH protocol. This will be the main

line of approach of EuropeanaLocal. To this extent, a number of the local/regional content providers participating in EuropeanaLocal have already begun to implement this model.

A number of fundamental assumptions have emerged at the strategic and political levels for Europeana and may be seen conditions which are highly relevant to the positioning and goals of EuropeanaLocal:

• Europeana will be a federated digital library built on distributed, autonomous and heterogeneous resources: this fact creates specific conditions and challenges for technical, functional and semantic interoperability.

• Europeana will be an access point to cultural content and not just a discovery point.

• Archives and museums must be involved effectively and visibly in Europeana, as soon as possible.

• Europeana will provide access to text, pictures, video, sound and 3D objects.

For 2008, the focus is upon on open access, digital, freely available and public domain material in order to minimize copyright issues in the early stages of development. However, all freely available content and metadata should be covered by a suitable license clearly specifying the respective rights and use conditions.

It is clear from initial discussions that the strategic goal of Europeana is to act as a service provider rather than simply as data/object provider. Although the principle purpose of EuropeanaLocal is to make cultural objects accessible for use (initially by exposing their metadata for harvesting) by Europeana, it is the clear proposition that Europeana will develop specific services in order to position itself as an added-value access provider. In this context it will be important to demonstrate the unique selling points of Europeana. Well structured access for users to the level and variety of item level content to be contributed from the local and regional sources provided.

OBJECTIVES OF EUROPEANALOCAL

The work of EuropeanaLocal will thus directly support the chief objectives of Best Practice Networks for digital libraries under eContentPlus, by contributing greatly to improving the interoperability of digital libraries held by museums, archives and other institutions all EU Member States and by making their content accessible through the common user interface of Europeana. Working closely with key initiatives such as Europeana.Net and successor activities to implement the proposed infrastructures and standards in the context of the provision of an enormous amount of new digital content held at local/regional level (or aggregations of this content), EuropeanaLocal will contribute powerfully to the growth of Europeana and to understanding and addressing in practical terms, the issues relating to standards-based interoperability between digital objects and collections by:

• Implementing the production standards, specifications and tools which will enable cross-domain search, retrieval and use of the digital content held by cultural institutions in all member states, involving the professional domains (libraries, museums and archives);.

• Establishing and promoting straightforward methods by which cultural institutions and aggregators may join Europeana and provide their content to its services.

By working so closely with Europeana, both through the involvement of its newly-formed EDL Foundation as a key player in the EuropeanaLocal network consortium and through active participation in Europeana.Net, EuropeanaLocal will support the establishment of a cooperation structure which benefits cultural institutions of all types and levels in every Member State

This process will add substantial added value to Europeana and its users, by:

• Greatly expanding and enriching the freely available and accessible content to be found by users systematically and easily through Europeana interface itself, as new services come on stream; and

• Making available for harvesting locally-relevant Europeana-branded cultural content to other service providers working in sectors such as tourism, education, family history, humanities research, the publishing/media industries and through other search engines and services on the Web. This will serve to enhance the interoperation of Europeana with other services and assist with its intention to work with such services to improve results mutually over the longer term.

Key content types to be made available through EuropeanaLocal include items and collections of high cultural value ('treasures') held at local or regional level, specific local collections held by libraries, museums and archives, local sound and film archives, public records held by archives etc. The number of content items available from the limited sample of institutions involved in EuropeanaLocal, at more than 20 million, is already very large in the context of the targets for and content currently available to Europeana. The potential of local/regional sources may be appreciated when these data are extrapolated to all cultural institutions in Europe and by taking into account the likelihood of a continued growth of digitization at local and regional level in the years to come. EuropeanaLocal will put in place an infrastructure that will continue to increase the content available to Europeana, at the same time enhancing the skills, expertise and motivation required to support local institutions throughout Europe.

EXPECTED RESULTS OF EUROPEANALOCAL

The expected results of the project, over its three year duration, will be to:

• Make accessible to Europeana the content specified in this proposal from the local/regional organizations and content aggregators which are the project partners, together with other content from these sources which becomes available during the project period, thereby boosting significantly the total content accessible through Europeana.

• To this end, promote and support, through training and guidance, the establishment of a widespread operational network of OAI-PMH repositories, represented in each member state plus Norway, consistent with the requirements of Europeana to harvest content. Metadata will be aggregated in repositories at a suitable 'geopolitical' or thematic level in each locality, region or country of Europe, to support web harvesting and interoperability. Repositories will be specified that support the recommendations of Europeana.Net in terms of protocols, technology and metadata requirements.

• Establish a test environment, to be operated by EDL Foundation, into which the metadata generated by EuropeanaLocal can be harvested, enabling technical enhancements and optimization for access via the Europeana interface to be performed, before eventual integration with the main Europeana infrastructure, for public availability as a prototype service towards the end of the project.

• Make available to the local/regional content providers in EuropeanaLocal a 'toolkit', including the OAI 'installer' tool developed for Europeana, automated metadata conversion tools, training and implementation support which will ease the conversion of existing local and institutional databases to OAI-PMH compliant digital repositories and will generate consistent metadata.

- Resolve the long standing problem of the use of differing, often locally created, metadata formats, especially in the museums and archives sectors, by implementing a practical convergence of major metadata schemas and by utilizing automated processes of mapping and 'cross-walking' between them. In this context, as in others, it will be vital in this context that EuropeanaLocal uses the architecture and standards for interoperable metadata emerging from Europeana.Net and its successor activities.

- Ensure that local and regional content providers represented within EDLocal comply with the list of requirements and guidelines emerging from Europeana.Net and the EDL Foundation, including the public availability of content (copyright cleared) and willingness to have their data processed according to Europeana practice.

- Extend to local and regionally sourced content sustainable solutions, consistent with the technologies developed within the overall framework of Europeana, for the systematic semantic and geographic annotation (metadata enrichment) of their digital content, both at the collection level and at the granular 'item' or 'object' level, such as user tagging, addition of user provided content, GPS co-ordinates, etc.

- Using the dissemination opportunities available to the project, promote the low-cost and straightforward accomplishment of additional digitization activity (including OCR for full text search) at regional and local level utilizing where possible the emerging network of creation of 'centers of competence' which are capable of providing service support to smaller institutions in digitization activities and of making available existing tools and services.

- Arrive at a position by the end of the project where it is easy for new local and regional content providers - and critically its aggregators at regional, national and international level - to add their content to Europeana without difficulty on a technical level and smoothly in terms of the Europeana business model e.g. by negotiated subscription through, regional, national and international initiatives (e.g. 'portals' and aggregations of various descriptions), as these arrangements are announced by Europeana. EuropeanaLocal partners in each member state will act to ensure that such agreements are in place, supporting and utilizing where appropriate agreements made by other national representative bodies.

- Ensure the sustainability of the repositories network in each, by negotiating and agreeing with other players in the in the national framework a most rational, scalable and maintainable solution to long-term aggregation of digital cultural content and its metadata.

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Semantic Knowledge Representation within Thesauri across Cultures

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Семантичното представяне на знанието в тезауруси в различни култури

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ABSTRACT

The information retrieval (IR) world has changed immensely in recent years, with the enormous increase in availability of searchable full text and of powerful engines for searching text. In this new framework a semantic tool like the thesaurus still continues to be of value and can be seen as a successful tool in facilitating a punctual IR. Traditionally, a thesaurus is defined as a controlled vocabulary in which semantic relationships between terms (hierarchy, association and equivalence) are made explicit and employed to improve *recall* and *precision* in the retrieval of information. Taking into account information access on a planetary scale, a thesaurus is also primarily a cultural product reflecting the peculiarities of the environment in which it has been built and is culturally embedded. In building a multilingual thesaurus, one represents knowledge and establishes links between not only different languages, but different cultures and worldviews, so that relationships between terms could be not universally valid. It is not uncommon for apparently exact equivalences to be indeed closer to a relation of similarity. Against this background the focus of this paper is on how to structurally organize knowledge for operational purposes, i.e. choosing how to plan the thesaural semantic structurization. A multilingual thesaurus can be designed with symmetrical or non-symmetrical semantic structures. Both approaches are examined also in the light of examples, with the aim of pointing to their respective peculiarities, supporting arguments and those against their adoption.

Keywords: *Multilingual thesauri; Symmetric vs. asymmetric thesaural structures; Knowledge representation; Cultural diversity*

РЕЗЮМЕ

През последните години, с огромното нарастване на достъпни за търсене текстове и мощните търсещи машини, в света на търсенето и извличането на информация се наблюдава много голяма промяна. В тези нови рамки семантичен инструмент като тезауруса все още продължава да бъде ценен и да се разглежда като средство за успешно подпомагане на прецизното информационно търсене. Традиционно тезарусът се определя като контролиран речник, в който са формулирани семантични отношения

между термините (йерархични, асоциативни и еквивалентни), използвани за усъвършенстване на *пълнотата и точността* при търсенето на информация. Ако достъпът до информация се разглежда в глобален мащаб, тезаурусът е също и преди всичко културен продукт, в който се отразяват особеностите на средата, в която е създаден. При изграждането на многоезичен тезаурус, се представя знание и се установяват връзки не само между различни езици, но и между различни култури и мирогледи и затова отношенията между термините не могат да бъдат общовалидни. Нерядко еквивалентности, които изглеждат на пръв поглед точни всъщност са по-близки до отношение или подобие. Този доклад насочва вниманието върху проблема, как знанието да се организира за оперативни нужди при тези условия т.е. как да се избере планирането на семантичното структуриране на тезауруса. Многоезичният тезаурус може да се проектира със симетрична или асиметрична семантична структура. Тези два подхода се изследват на основата на примери, за да се изтъкнат техните особености и аргументите за и против тяхното прилагане.

Ключови думи: *многоезичен тезаурус; симетрични и асиметрични структури на тезаурус; представяне на знание; културно разнообразие*

INTRODUCTION

The information retrieval (IR) world has undergone impressive changes in recent years, due to the ever increasing availability of searchable full texts and of powerful engines for searching text. However, understanding the nature of information, how humans process it and how can it be best organized in order to facilitate its use are still necessary steps in accomplishing a successful IR, given the fact that free-text search possibilities are still unable to grant high levels of accuracy and fruitfulness.

Within a given amount of data, the search function is a fundamental element in defining the successfulness of the research. What happens is that the search is performed based on the actual text string entered rather than on an interpretation of the meaning of the string (Soergel et al., 2004), which leads to serious problems not only with homographs, but also with terms that are themselves ambiguous. The term *translation*, as defined by the New Shorter Oxford English Dictionary (1993), for example, might be „the action or process of expressing the sense of a word, passage, etc. in a different language "or "the product of this action; the version in a different language", as well. A semantically-based indexing and searching is therefore crucial. Semantic organization should furnish relations that are significant, indicative and differentiating enough in order to grant successfulness of IR. Relations connecting terms can be hierarchical and non-hierarchical. Those found in traditional controlled vocabularies and classifications seem however not fully able to always grant a satisfactory retrieval.

A semantically-based knowledge organization acquires an even stronger importance when the application field takes into account more than one language simultaneously. Each language is the result of the need of the members of a certain community to express themselves, their culture, and their lifestyle. These latter can vary significantly moving from one community to another. Organizing knowledge in a multilingual context can therefore uplift many meaningful differences. Our interest relies on examining how to represent the meaning of terms in different languages, i.e. cultures, and the relationship between them in a multilingual thesaurus.

MONOLINGUAL AND MULTILINGUAL THESAURI

There are several devices developed for vocabulary management, among them, classification schemes, taxonomies, ontologies, term maps and thesauri. A fundamental role in terminology management is played by the way in which concepts are interlinked within a

subject field. In order to organize knowledge, the possible relations between concepts are they themselves classified in two broad categories: hierarchical and non-hierarchical. The first one is based on superordination and subordination between two concepts, whereas the second one is far less clearly defined and includes associated concepts and concepts revealing similarity, which is disclosed to enhance information retrieval.

Our focus in this paper will be concerning thesauri, defined as controlled vocabularies designed to support information indexing and retrieval (NISO, 2005) and organized so that those relationships that are regarded as paradigmatic and "document-independent" (so called "a priori relationships") are explicitly exhibited (ISO, 1986). The most important relation connects broader to narrow terms, BT/NT, and encompasses hierarchies of generic (*social sciences/sociology*), instantial (*languages/Spanish language*) and partitive (*linguistics/morphology*) typologies (see Endnote 1).

International standards (first of all ISO [1986]) identify 2 types of non-hierarchical relationship: association and equivalence between concepts. The associative relation has been defined in several viable ways (among them Soergel, 1974; ISO, 1986; Maniez, 1988; ISO, 2000; Dextre-Clarke, 2001) and constitutes the widest applicable relation, being intended to suggest additional or alternative terms (Related Terms, RTs) for indexing or retrieval (for example, *communication/language*). The equivalence relation displays overlapping meanings. In the framework of a thesaurus as defined in ISO (1986), it links terms of unequal status designing a "preferred term" and a "non-preferred one", aiming to guide the user of the thesaurus to the most appropriate/suitable term to use to refer to a certain concept when indexing or searching (for example, *syllabus/* USE *curriculum*; *return to study courses/*USE *reentry courses*; *required courses/*USE *compulsory courses*).

As far as this last one is concerned, a relationship of equivalence can be detected also at an interlingual level, i.e., for our purposes, within a multilingual thesaurus. In this case the thesaurus displays terms/concepts from more than one language and has been devoted specific guidelines and standards, among them ISO (1985) and the draft of the Guidelines for Multilingual Thesauri of the International Federation of Library Associations and Institutions (IFLA, 2005). The ISO standard refers to the monolingual thesaurus standard (Standard 2788 [ISO, 1974, 1986]) for the general framework about relationships and focuses especially on the extent to which specific pairs of terms can be considered as corresponding to each other, i.e. equivalent. It identifies a range of degrees of equivalence, defined as follows:

- „exact equivalence" – e.g. (EN) *physics* – (FR) *physique* – (DE) *Physik*;
- „inexact" or „near equivalence" – e.g. (EN) *alcohol education* – (FR) *education antialcoolisme*
- „partial equivalence" – e.g. (EN) *nuts* – (FR) *noix*;
- „single-to-many equivalence" - e.g. (EN) *fuels* – (FR) *carburant – combustible*;
- „non-equivalence" – e.g. (DE) *Berufsverbot*.

Identifying equivalence degrees, the standard, in fact, acknowledges that equivalence need not be absolute across languages. But despite this differentiation, "the standard tends to prefer exact equivalence across languages, even when terms or hierarchical/associative relationships must be devised that are not justified by usage in one of the languages" (Milstead, 2001, p. 62). It requires that all preferred terms be matched by corresponding terms in each language of the thesaurus, although not requiring cross-language equivalents for all non-preferred terms. Concerning this aspect, Milstead (2001) further considers that

> [W]hile the standard's recommendation that: „All the languages should be regarded as having equal status from the viewpoint of thesaurus construction" (p. 6) is admirable, it seems to have been carried to an extreme. The standard recognizes that one language may contain terms that have no counterpart in another, and that culture affects the

perceived relationships between terms. „Equal status" should not have to mean inventing terms in one language just because an equivalent term [USE/UF] exists in another language. The purpose of a thesaurus is to serve indexing and retrieval; users of a thesaurus and of the system it supports are going to be looking for the concepts they know" (p. 63).

CULTURAL CONCEPTUALIZATION, LINGUISTIC REPRESENTATION AND THESAURI

This point brings us to another fundamental aspect concerning information retrieval in the globalized setting in which information is sought. Different languages could classify differently even a „same" phenomenon, in that intension and extension of a given term could be broader or narrower moving from one knowledge system to another, moving from one language to another (see for example the word pair *education*/*éducation* in Hudon [2001, p.73-74]).

Dealing with conceptualizations across cultures, Neelameghan and Raghavan (2005) state that a language is a product of a specific community reflecting its nature and culture. Lexemes or expressions (words, terms) of a language are the results of the necessity of the culture and lifestyle prevalent among the members of a particular community to be expressed. The authors further consider that, unless communities speaking different languages share the same culture, certain concepts in culture-specific domains may have verbal expressions only in a particular language, the one in which they exist. Words extrapolated from a language are, in fact, verbal expressions for concepts engraved in the culture of that language (see Endnote 2). As for the linguistic representation of concepts, Wierzbicka (1991) conceives that each language has to be understood as a "self-contained system" in which no word of one language can have absolute equivalents in another.

Already Hjelmslev (1943) argued that the meaning of corresponding words in different languages is not always (totally) equivalent (e.g., the English *wood* and *forest* and the Italian terms *bosco*, *selva* and *foresta)*. At another level, this problem arises de facto every time an equivalent term of an English one is looked for, for example, in French, Italian or Spanish, when the term exhibits gender specific forms (e.g. the English *teacher*, the French *enseignant* and *enseignante* and the Italian *maestro* and *maestra*) (Hudon, 2001).

These considerations concern pertinently also multilingual thesauri, since a thesaurus reflects the peculiarities of the environment in which it has been built and is culturally embedded.

To the feasibility of the possible existence of a language-independent system of concepts and to the assumption that concepts are defined cross-linguistically, i.e. in a way which is considered equally valid for several languages, Schubert (1995) poses a practical objection. He legitimately considers that "a language-independent concept cannot be written down. It is only possible to write down words taken from a language. Thus a thesaurus contains words from some sort of language" (Schubert, 1995, p. 137).

In building a multilingual thesaurus, one represents knowledge and establishes links between different languages, different cultures and worldviews. Thus semantic relations valid in one language, such as an equivalence (USE/UF) relationship or a hierarchical-partitive relationship, do not necessarily always have a universal validity (see Endnote 3). Coming back to Schubert (1995), the author sustains that the possible existence of language-independent concepts seems to encounter so many difficulties (disregarding the practical aspects of its realization in language technology) "that it is worthwhile re-thinking the question whether this really is the only possible way. There might be other ways of achieving the same effect" (p. 137).

SEMANTIC STRUCTURIZATION IN THESAURI

According also to the IFLA Guidelines (2005), the semantic management within a multilingual thesaurus can be twofold: symmetrical and non-symmetrical.

The Symmetrical Approach

The symmetrical structurization is the prevalent semantic organization within many multilingual thesauri. It consists of identical semantic representations in all the language versions of the tool. Its history is rooted in the practice of translating in a number of languages an already pre-existing thesaurus, which had been considered efficient (Hudon, 1997; IFLA, 2005; De Santis et al., 2007). This procedure leads to structures which are perfectly coinciding and that, from an interlingual point of view, furnish an equivalent term for each descriptor of the thesaurus.

Taking those single linguistic versions the thesaurus has been translated into on their own, however, it is not rare for inconsistencies to be detected, owing to different semantic areas covered by the terms, apparently referring to an equivalent concept.

Forcing a term in one language to acquire the semantics of the detected comparable term in another language, or, recalling Milstead's position (2001) already cited earlier, interpreting „equal status" as "inventing terms in one language just because an equivalent term exists in another language" can lead to artificialization of a language. Hudon (2001) states that this practice could lead to artificializing the involved languages to the extent to which artificial lexical nodes and relations would be established between terms. She (Hudon, 2001, p. 73) then also adds that although these artificializations might be deemed acceptable for the purpose of designing a tool to access an information system, they do not clear the underlying conceptual overlaps and conflicts which still remain.

Applying a symmetrical structurization, when artificial lexical nodes and relations are largely used, could therefore lead to forcedly stretching the conceptual structure of a language to arrange it to be compatible with the conceptual organization of another language and to establishing questionable semantic structures within a multilingual thesaurus (Hudon, 2001). A stimulating example is the one provided by Hudon (2001, p. 74) on *education* and *éducation*. According to the author the two terms cannot be considered as exact equivalents, since the English term has a broader meaning than the French term and is less clearly distinguished from the concept of *teaching* than *éducation* and *enseignement* are in French. The consequences for the relationships established between *education* and other terms in the English version, and automatically acquired also in the other language of the thesaurus, can lead to creating misleading semantic relationships between terms. Establishing a wrong full equivalence between couples of terms is likely to bring about an incorrect inclusion in the following level of specificity. If a term from language A is defined as being equivalent of a term from language B, forcing however the interpretation a native speaker of A would give, not only the representation might lose a great part of its utility, but its perceived correctness could be undermined, as well (Hudon, 2001).

Recent research and studies on the management of different language structures (very often hiding also different semantic structures) are leading thesaurologists to restructure pre-existing thesauri or build new ones without presupposing symmetry between the language versions contained in the multilingual thesaurus. Examples are the Canadian Literacy Thesaurus and the Umwelt-Thesaurus (*UMTHES*), which, coming from a previous experience with symmetrical structures between languages, were unsatisfied with the necessity to provide each descriptor of the thesaurus with one equivalent term in any other language of the thesaurus and have therefore switched or are switching to independent language versions.

The Non-Symmetrical Approach

Departing from the assumption that in the different linguistic versions the number of terms can vary and that terms could be related among them in different ways in each language version, a thesaurus can be developed with non-symmetrical semantic structures. By doing so, each language relies on an independent semantic structure, possibly displayed separately.

A noteworthy example can be drawn again from the couple of terms *education* and *éducation* for an example of non-symmetrical structuring. The Canadian Literacy Thesaurus, as it appears in the IFLA Guidelines (2005, p. 20), displays how much the meaning of *education* and *éducation* diverges, featuring the difference in narrower and related terms in the two linguistic versions.

The hierarchical structurization of these two terms in the above mentioned thesaurus, in its version of early 2008, is provided distinctly for each language. Searching the English term *education* the hierarchy is the following, displayed in Figure 1:

Figure 1: Hierarchy displayed for 'education' in the Canadian Literacy Thesaurus (2008)

The French version of the thesaurus provides the hierarchy of *éducation* as shown in Figure 2.

Figure 2: Hierarchy displayed for 'éducation' in the Thesaurus canadien d'alphabetisation (2008)

Structures which are allowed to differ seem, in fact, to be more appropriate to represent the universe of concepts and terms of each cultural and linguistic surrounding, reflecting the conceptual and terminological structures with which potential users are most familiar. And when each language version of a thesaurus is able to work cross-linguistically as well as in its own linguistic-cultural surrounding, the possibility to use it as a means to facilitate the retrieval of culture-specific information is, consequently, improved (Hudon, 2001). A further case study is offered by the experience of the Umwelt-Thesaurus (UMTHES). At the moment this environmental thesaurus is undergoing a restructuring with the aim of developing a multilingual thesaurus with non-symmetrical structures across-languages (German and English), in order to cope with the encountered cross-cultural differences.

One of the main points which are responsible for a more common application of a symmetrical structurization is the question concerning how to connect the different, separately developed, semantic structures in order to actually build a *multilingual* thesaurus. The experience of the Canadian Literacy Thesaurus – Thésaurus canadien d' alphabetisation seems to suggest that the several language versions should be kept and displayed separately, producing only suggestions of possible equivalent terms in a different language, to be then recalled in the structurization of this latter. However finding a bridge function between the different language versions which does not operate at a single term level, but that, for

example, takes into account clusters of terms, as suggested by Keränen (2006), also offers an extremely interesting point to further research, because as also Schubert (1995) says "the systems of semantic relations in different languages are incongruent, so that different languages are more than different sets of words for the same entities, properties and events" (p. 139).

PROMOTING A EUROPEAN HIGHER EDUCATION AREA

Given this theoretical context, an application field has been chosen in which a terminological comparison is being carried out (in the framework of a PhD project), concentrating on the content of university courses and teaching modules from different educational systems. The aim is to appraise/"measure" the comparability of the didactic offer of different universities and have an estimation of the extent to which the unrestricted flow across systems pictured by the Bologna Process with the aim of defining a European Higher Education Area (EHEA) is actually possible and achievable.

Launched in 1999, the Bologna Process seeks to accomplish by 2010 a comprehensive restructuring of the European higher education, based on three main cycles: first cycle or bachelor, second cycle or master, and third cycle or doctorate. The Bologna Process does not aim at harmonizing national educational systems, rather, its target is connecting these latter (Europe"s New Higher Education Landscape, 2008). The intention is to allow the diversity of national systems and universities – in terms of culture, language(s) and mission – to be maintained, while the European Higher Education Area improves transparency between higher education systems, as well as implements tools to facilitate recognition of degrees and academic qualifications, mobility and exchanges between institutions.

In order to facilitate the mutual (national as well as international) recognition of qualifications, acknowledged also in the Berlin Communiqué 2003 establishing the need for an overarching framework of qualifications for the EHEA, the Joint Quality Initiative has developed the "Dublin descriptors" (presented in Table 1). They are particular qualification descriptors based on learning outcomes and competences, described as generic, subject-oriented or profile-oriented that attempt to define generic competences for the levels of bachelor and master as well as for the doctorate. The Dublin Descriptors offer a generic statement of typical expectations of achievements and abilities associated with the award of particular named qualifications.

Cycle	Knowledge and understanding:
1 (Bachelor)	[Is] supported by advanced text books [with] some aspects informed by knowledge at the forefront of their field of study ..
2 (Master)	provides a basis or opportunity for originality in developing or applying ideas often in a research* context ..
3 (Doctorate)	[includes] a systematic understanding of their field of study and mastery of the methods of research* associated with that field..

	Applying knowledge and understanding:
1 (Bachelor)	[through] devising and sustaining arguments
2 (Master)	[through] problem solving abilities [applied] in new or unfamiliar environments within broader (or multidisciplinary) contexts ..
3 (Doctorate)	[is demonstrated by the] ability to conceive, design, implement and adapt a substantial process of research* with scholarly integrity .. [is in the context of] a contribution that extends the frontier of knowledge by developing a substantial body of work some of which merits national or international refereed publication ..

	Making judgments:
1 (Bachelor)	[involves] gathering and interpreting relevant data ..
2 (Master)	[demonstrates] the ability to integrate knowledge and handle complexity, and formulate judgments with incomplete data ..
3 (Doctorate)	[requires being] capable of critical analysis, evaluation and synthesis of new and complex ideas..

	Communication
1 (Bachelor)	[of] information, ideas, problems and solutions ..
2 (Master)	[of] their conclusions and the underpinning knowledge and rationale (restricted scope) to specialist and non-specialist audiences (monologue) ..
3 (Doctorate)	with their peers, the larger scholarly community and with society in general (dialogue) about their areas of expertise (broad scope)..

	Learning skills ..
1 (Bachelor)	have developed those skills needed to study further with a high level of autonomy ..
2 (Master)	study in a manner that may be largely self-directed or autonomous..
3 (Doctorate)	expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement .

Table 3: Dublin Descriptors differentiating between the three cycles (Shared 'Dublin' descriptors for First Cycle, Second Cycle and Third Cycle Awards, 2004:4)

THE RESEARCH PROJECT "MULTILINGUAL THESAURI: THE RESTRUCTURING OF EUROPEAN HIGHER EDUCATION SYSTEMS"

The Dublin Descriptors are becoming, but have not yet been always and everywhere thoroughly adopted, one of the basic elements according to which study regulations are defined. Being their aim transparency of content across national systems, the application of these latter will be compared in order to identify *bridging equivalences*.

An ongoing PhD project is being carried out on a linguistic and semantic comparison of the European university reform in the light of the introduction of the Dublin Descriptors in the compilation of study regulations in Italy and in a German and English speaking country. This will define the basis for a comparative study which will evaluate the (degree of) equivalences that can be identified across systems.

The aim of the EHEA, seeking the preservation of every cultural/national peculiarity, as well as a comparability between different systems, that"s to say some level of equivalences between systems, offers a challenging situation, whose knowledge needs to be organized in order to retrieve data from different collections. An apparently perfect setting to test the feasibility of developing a multilingual thesaurus with structures which are developed separately, in order not to harmonize the content, but that are all managed within the same thesaurus, which is going to be *multi-lingual*, because it is multicultural. It has the potential to offer connections between the systems, highlighting the equivalences and all those similarities that can create the EHEA, identifying those communalities, those common paths that favour the coming true of the flow between systems wished by the Bologna Process.

An innovative factor which is being considered for inclusion in the thesaurus to be constructed is the admission of not solely nouns and noun phrases. Most often thesauri are in fact concentrated only on these latter, because they constitute the majority of the specialized vocabulary. However, as also Schubert (1995, p. 138) sustains, "the relations, which by

definition are the constitutive characteristic of a thesaurus, are found mainly in verbs and adjectives (more precisely in predication words)." And especially if automatized knowledge acquisition is the aim, then the knowledge acquisition "should have access to the entire vocabulary, and in particular to the verbs of the core vocabulary, thus to those elements that are not part of the specialized language." (Schubert 1995, p. 138). The project development is still at an early stage at which the university national systems to compare with the Italian one are being selected.

CONCLUSION

This paper introduces the theoretical and pragmatic background to analyze the structural organization of knowledge across different languages for operational purposes. Concentrating especially on the vocabulary control within a multilingual thesaurus, the argumentation considers the choice between a symmetrically or non-symmetrically thesaural semantic structurization.

Designing a multilingual thesaurus in which the semantic structures of all languages are managed symmetrically leads to perfectly overlapping structures, furnishing for each descriptor an equivalent term in any other linguistic version of the thesaurus. However, according to Hudon (2001), if the symmetry is taken as a prerequisite, it may lead, in some cases, to artificializations betraying the purpose of a thesaurus, which is to serve indexing and retrieval and which "users of a thesaurus and of the system it supports are going to be [using] looking for the concepts they know" (Milstead 2001, p. 63), and not for invented terms "just because an equivalent term exists in another language" (p. 63).

A potentially non-symmetrical semantic structure, instead, in which each language version reflects the conceptual organization of the culture expressed through that idiom, i.e. in which every language has a separately developed semantic structure, which is compared to the other languages/cultures registered in the thesaurus in order to identify equivalences where they exist, seems more likely to faithfully represent some cultural content. This analysis is being applied to a specific context, the creation of a European Higher Education Area aimed at through the application of specific qualification descriptors based on learning outcomes and competences: the Dublin Descriptors. Examples are however still missing, due to the early stage of the development of the project.

ENDNOTES

1. All examples are taken from the Canadian Literacy Thesaurus/Thésaurus canadien d' alphabetisation (2008).

2. The Arctic ecologist Pruitt, who has been using Inuktitut (Eskimo language) and other indigenous terminology for types of snow for decades, says "Boreal ecologists deal with aspects of nature, particularly snow and ice phenomena, for which there are no precise English words. Consequently, our writings and speech are larded with Inuti, Athapascan, Lappish and Tungus words, not in any attempt to be erudite but to aid in the precision in our speech and thoughts" (Pruitt, 1978:6). Ole Henrik Magga (2006: 34) deepening the subject of snow terminology writes that "there are 175-180 basic stems on snow and ice", for example, the Inuit *Api* means „snow on the ground, forest", *Qali* „snow on trees" and *Upsik* a „wind-hardened tundra snow cover". Berkes (1999: 61).

3. Deliberately overlooking the fact that classifying is indissolubly connected to cultural interpretation, to conceiving knowledge within the limits of certain basic constraints, making some specific items more salient than others (Mazzocchi et al. 2007).

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Structure and Access to the Current National Bibliography in the Context of the COBISS System

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Структура и достъп до българската текуща национална библиография в контекста на системата COBISS

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ABSTRACT

The paper describes changes in the system of current national bibliography, following the decision of the National Library to join COBISS Net. The aim is to arrive at a unification of the technology, used for registering of the separate types of documents, the provision of optimal movement of documents and creation of information about them, increasing operational features of information on books published on a national scale, achieving unifications on the elements of bibliographic description of books in the Bulgarian language and foreign languages. An outline of the format of the provided information is given within the context of the proposed changes, namely forthcoming books, received under the Law on Book Deposit, catalogue information and bibliographic information. A new model of the specific structure of current national bibliography has been drawn up as well in this connection.

Keywords: National bibliography; "St. St. Kiril and Methodius" National Library; COBISSNet

РЕЗЮМЕ

В доклада са предложени промени в системата на текущата национална библиография, обусловени от решението на Народната библиотека да се присъедини към системата COBISS.Net. С тези промени се цели да се постигне уеднаквяване на технологията, ползвана за регистрация на отделните видове документи, оптимизиране на движението на документите и създаваната за тях информация, повишаване на оперативността на информацията за националната издателска продукция, постигане на унификация на елементите на библиографското описание на книгите на български и чужди езици. В контекста на предложените промени е разработено виждане за вида на предоставяната информация – сигнална за книгите под печат, оперативна информация за документите, постъпили по силата на Закона за задължителното депозиране, каталожна и библиографска. Във връзка с това е изработен и нов модел на специфичната структура на текущата национална библиография.

Ключови думи: национална библиография; Национална библиотека „Св. св. Кирил и Методий"; COBISSNet

През последната година в системата на българската текуща национална библиография бяха предложени промени, които се основават на решението на Народната библиотека да се присъедини към системата COBISS.Net (1) и са съобразени със Заключителните препоръки от Международната конференция на националните библиографски служби (Копенхаген, 1998 г.) (2).

На тази конференция **категорично** бе поставен въпросът за форматите, в които трябва да се разпространяват националните библиографии, и за **връзките** на отделните формати с оперативността на информацията. Основните изисквания са:

- да се осигури формат, който гарантира трайно архивно съхраняване на информацията, т.е. **запазване на печатния формат;**
- да се осигури максимално бързо публикуване, предоставяне и разпространение на информацията, т.е**. възможност за мрежови или Интернет достъп;**
- да се осигури необходимата **придружаваща информация** към различните формати на публикуване, а също така и нейната **текуща актуализация**;
- да се използват **международните стандарти**, библиографските описания да имат **определени точки за достъп**, да бъдат разположени така, че **да задоволяват потребителските търсения** и да са в съответствие с характеристиките на формата за разпространение.

ПРИСЪЕДИНЯВАНЕ КЪМ COBISS. NET. И ИЗИСКВАНИЯ НА СИСТЕМАТА

Използването на интегрирана библиотечна система, каквато е системата COBISS, предоставя големи възможности за представянето и ползването на информацията за националната издателска продукция. Внедряването на такава система предполага и изисква **извършване на промени** в досегашния начин на подготовка на информацията и в организацията на работата. Това, което бе предприето, най-общо се отнася до следното:

- регистрация на документите;
- семантична обработка на документите;
- директно участие в международни системи и програми – ISBN, ISSN, ISMN, Index Translationum.

РЕГИСТРАЦИЯ НА ДОКУМЕНТИТЕ

Досегашната практика и организация на работа предполагаше първоначално създаване на максимално пълен библиографски запис за българските книги, който бе предназначен за централната каталогизация и изданията на текущата национална библиография (ТНБ). На основата на тези записи се изграждаха машинните каталози както в Народната библиотека, така и в библиотеките в страната. Идеята за това решение е била библиотеките да предоставят достъп чрез своите каталози до националните библиографски записи.

Възможностите на интегрираната система COBISS позволяват тази практика да бъде променена и да се премине първоначално към изработването на **първичен запис**, който ще бъде максимално кратък, ще съпровожда документите от тяхното постъпване в библиотеката и ще предоставя експресна информация за новопостъпилите издания по депозит. Първичните записи ще се допълват и ще се създават **базови записи** за нуждите на машинния каталог. За **изданията на текущата национална библиография** (незави-

симо от формата) базовите записи ще бъдат **доработвани** (до пълнота на национални библиографски записи).

СЕМАНТИЧНА ОБРАБОТКА НА ИНФОРМАЦИЯТА

По отношение на семантичната обработка на информацията бяха предприети действия за приравняването на Таблици на десетичната класификация (3, 4, 5) към международното стандартно издание на УДК. Беше изработена кодова таблица към българския вариант на COMARC B, която бе съобразена с всички допълнения и поправки, направени в Master Reference File(6), с нивото на дробност при търсенето на информация в споделения електронен каталог, с особеностите на българската издателска продукция и съществуващите традиции в областта на класифицирането на документи. Бяха спазени принципите за постигане на определен баланс между отделните отрасли на знанието, като се взе предвид, че таблицата е предназначена за споделения каталог на универсалните общодостъпни библиотеки и се постигна приблизително аналогично ниво на дробност с кодовите таблици на други участници в мрежата от библиотеки COBISS. Net.

Причините за предприемането на тези действия бяха обусловени от:

1. Предстоящото участие на Народната библиотека и други регионални библиотеки в споделената база данни COBIB. BG;

2. Предстоящото представяне на българската издателска продукция в Европейската електронна библиотека;

Какви **резултати** очакваме да се реализират:

• унификация на информационно-търсещите езици на национално равнище, в областта на машинните каталози;

• търсене в автоматизиран режим по всеки класификационен индекс на нивото на кодовата таблица;

• подреждане на библиографските издания в системата на текущата национална библиография.

За библиографските бази данни и изданията на ТНБ ще **се изработват по-детайлизирани индекси**, т.е. национални библиографски записи. Това би дало възможност текущата национална библиография, като базова **библиографска информационна система**, да задоволява нуждите както на потребителите на автоматизирани бази данни, така и на ползвателите на традиционните издания и изследователите на издателската продукция в страната.

Използването на **предметния информационно-търсещ език** при аналитико-синтетичната обработка на документите в националната библиография предполага в бъдеще по-интензивно попълване на предметния рубрикатор с нови рубрики, което до сега бе възпрепятствано от поддържането на традиционен предметен каталог в националната библиотека. За библиографските записи на **всички видове документи** и **всички издания** на националната библиография са необходими по-големи възможности и по-задълбочено търсене в рамките на предметния информационен език.

УЧАСТИЕ В МЕЖДУНАРОДНИТЕ СИСТЕМИ И ПРОГРАМИ

Внедряването на интегрирана библиотечна система предполага въвеждането на международния формат COMARC. Тази промяна означава, че българското участие в

международните системи ISBN, ISSN, ISMN и Index Translationum ще се извършва директно в базите данни на международните агенции или по начин, който тези агенции изискват и от останалите участници в системата. Досега част от посочената информация се попълваше в бордера, които в Международната агенция за ISSN в Париж се въвеждат отново, или във формата, който ползва библиотеката и след това трябва да бъдат конвертирани в съответния международен формат. Адаптирането на международен формат и в това отношение създава предпоставки за равностойно участие на българската страна в посочените международни системи.

ОЧАКВАНИ РЕЗУЛТАТИ

Предложените промени в организацията на работа ще осигурят:

• уеднаквяване на технологията, ползвана за регистрация на отделните видове документи (български и чужди);

• оптимизиране на движението на документите и създаваната за тях информация;

• повишаване на оперативността на информацията за националната издателска продукция;

• постигане на унификация на елементите на библиографското описание на книгите на български и чужди езици.

ВИД НА ПРЕДОСТАВЯНАТА ИНФОРМАЦИЯ

Използването на интегрирана библиотечна система и единен международен формат за обработка на документите (COMARC) ще доведе до предоставяне на информация на различни потребителски равнища, т.е.:

• осигуряване на сигнална информация за книгите под печат от издателствата, които са регистрирани в системата ISBN, и на перспективна библиографска информация, получавана от самите издателства;

• осигуряване на оперативна информация за библиотеките в страната чрез публикуване в Интернет на сведения за новопостъпилите задължителни екземпляри;

• публикуване на текущите или първични издания на националната библиография на Интернет страницата на Народната библиотека и осигуряването на платен или безплатен достъп за потребителите;

• публикуване на годишни и кумулативни издания на националната библиография на CD-ROM и в печатан вид.

Създаването на първични записи за документите, постъпили по силата на Закона за задължителното депозиране, предполага, че тези записи могат да се използват за публикуване на оперативна информация, да формират машинния каталог на Народната библиотека и сводния каталог COBIB. BG По този начин достъпът на потребителите ще бъде „ограничен" до оперативната информация за българските книги и до машинния каталог на библиотеката.

По-различен трябва да бъде подходът, ако в бъдеще се постигнат споразумения с издателите за предоставяне на **сигнална информация за книгите под печат**, за електронните книги, електронните списания и статиите от периодичните издания, които ще имат евентуална връзка към пълнотекстови бази данни, и за перспективната библиографска информация. Условията за ползване на посочените видове информация трябва да бъдат договорени съвместно с техните автори и производители.

Публикуването на текущите издания на националната библиография на Интернет страницата на Народната библиотека ще изисква доработване и по-точно допълване на библиографския запис съобразно изискванията за пълнота на записите в системата на националната библиография, т.е. до ниво на **национални библиографски записи**. Предварително трябва да бъдат определени и зададени и точките за достъп. Според нас информацията трябва да бъде структурирана във формата на традиционните бюлетини на текущата национална библиография.

За годишните и кумулативните издания на CD-ROM и за изданията в печатен вид точките за достъп са определени по елементите за търсене, заложени в показалците на традиционните издания.

СПЕЦИФИЧНА СТРУКТУРА НА ТЕКУЩАТА НАЦИОНАЛНА БИБЛИОГРАФИЯ

При така изложеното виждане моделът на специфичната структура на текущата национална библиография би изглеждал по следния начин:

Сер. 1 – „Български книгопис". Книги, официални издания, нотни издания, графични издания, картографски издания, издания за слепи, издания на некнижни материали и на електронни носители, нови или с изменени заглавия периодични издания + **електронни книги (web издания)**.

1. Месечен бюлетин, публикуван в електронна форма:

библиографски запис (допълнителни елементи):

- уникален номер за ТНБ – буква (взета от вида на документа), година, пореден номер.

точки за достъп (показалци):

- имена на автори;
- заглавие;
- серии;
- УДК;
- предметни рубрики;
- ISBN.

подреждане:

- по видове документи
  - o систематично по УДК, с препратки (само с посочен номер на описанието);
    - азбучно.

2. Годишен кумулативен указател (без новите заглавия – периодични издания), публикуван на CD-ROM:

точки за достъп:

- имена на автори;
- заглавие;
- език на изданието;
- издателства (само с №);
- серии (серийно описание с № на записа);
- УДК;

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- предметни рубрики;
- ISBN.

3. **Годишен кумулативен указател** (без новите заглавия – периодични изда-
ния), публикуван в печатен вид:

показалци:

- лични имена;
- колективен автор;
- заглавие;
- издания на чужди езици;
- издания, преведени от чужди езици;
- издателства (само с №);
- серии (серийно описание с № на записа);
- предметни рубрики;
- ISBN.

 подреждане:

- по видове документи
  - ○ систематично по УДК;
    - • азбучно.

Сер. 2 – „Български дисертации“. Дисертации и хабилитационни трудове.

1. **Годишен указател**, публикуван в електронен вид и на CD-ROM:

точки за достъп:

- имена на автори (автор, научен ръководител, рецензент,   персоналия);
- дисертации, защитени в чужбина;
- УДК;
- предметни рубрики.

подреждане:

- по вид – докторска дисертация/доктор на науките/хабилитационен труд;
  - ○ по УДК;
    - • азбучно;

Сер. 3 – „Българска дискография“. Грамофонни плочи, аудиокасети, компакт-
дискове и говорещи книги.

1. **Годишен указател**, публикуван в електронна форма и на CD-ROM:

точки за достъп:

- имена на автори;
- заглавие;
- УДК;
- предметни рубрики;
- номера на носителите.

подреждане:

- по форма на записа – музикални и немузикални звукозаписи
  - ○ азбучно.

Сер. 4 – „Български периодичен печат". Вестници, списания, бюлетини и периодични сборници + **електронни продължаващи издания**:

1. **Годишен указател**, публикуван в електронна форма и на CD-ROM

точки за достъп:

- заглавие;
- издателство и редакция;
- местоиздаване;
- нови заглавия продължаващи издания;
- УДК;
- ISSN.

подреждане:

- по вида на изданието (вестници, списания, пер. сборници, бюлетини, доклади и отчети, справочници);
  - азбучно.

2. **Годишен указател**, публикуван в **печатен вид**

точки за достъп:

- заглавие;
- издателство и редакция;
- местоиздаване;
- нови, променени и спрели заглавия продължаващи издания;
- УДК;
- ISSN.

подреждане:

- по вида на изданието (вестници /столични и регионални/, списания, пер. сборници, бюлетини, доклади, отчети и справочници);
  - азбучно.

Сер. 5 – „Летопис на статиите от българските списания и сборници" Статии от списания и сборници и рецензии, публикувани в списанията и сборниците + **статии от електронни списания**:

1. **Месечен бюлетин**, публикуван в електронна форма

точки за достъп:

- имена на автори;
- УДК;
- източник;
- предметни рубрики.

подреждане:

- систематично по УДК;
  - азбучно.

Сер. 6 – „Летопис на статиите от българските вестници“. Статии от вестници + **статии от електронни вестници с връзка към пълнотекстови бази данни.**

1. **Месечен бюлетин**, публикуван в електронна форма:

точки за достъп:

- имена на автори;
- УДК;
- източник;
- предметни рубрики.

подреждане:

- систематично по УДК;
  - азбучно.

Сер. 8 – „Библиография на българската библиография“. Самостоятелни и несъмостоятелни библиографски публикации.

1. **Годишен указател**, публикуван в електронен вид и на CD-ROM

точки за достъп:

- имена на автори;
- заглавие;
- ДК;
- предметни рубрики.

подреждане:

- систематично по УДК;
  - азбучно.

Ако тази специфична структура на ТНБ се утвърди, трябва да се има предвид, че бъдещото активно събиране на web-документите, когато те станат част от обектите на Закона за задължителното депозиране на екземпляри от печатни и други произведения, ще изисква създаването на **нова серия** на текущата национална библиография. Също така стремежът на Народната библиотека трябва да бъде всяка година да се издава CD-ROM, в който да се **публикуват всички серии на ТНБ**. Предвиждаме и възможност за електронно публикуване на базата данни на книгите под печат и/или на перспективната библиографска информация, получена от издателствата.

ЗАКЛЮЧЕНИЕ

Така предложените промени в организацията на работа и новата специфична структура на текущата национална библиография осигуряват библиографска информация в три режима – перспективен, текущ и кумулативен, публикувана в традиционен и машинночетим вид на различни носители. Разнообразните форми за предоставяне на информацията се допълват сполучливо един друг и биха задоволили широки потребителски търсения.

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Students' ICT Competencies in Time of Globalization and Management of Information Resources

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Информационните и комуникационните компетенции на студентите в епохата на глобализацията и управлението на информационните ресурси

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ABSTRACT

This paper discusses the research results of students' ICT (Information and Communication Technology) competencies and the impact of these competencies on their ability to utilize e-learning tools. Results were obtained by testing their information literacy and the chosen method used for this study was a survey. Research sample are LIS students who are studying at the Department of Information Sciences of Faculty of Philosophy in Osijek. Students were exposed to a virtual environment supported by e-learning tool, namely LMS Moodle, in addition to the conventional teaching methods. Our working hypothesis is that students who possess higher level of ICT competencies are more successful at working in virtual learning environment. Experimental procedures are to establish whether there is a genuine connection between the information literacy of students and their ability to tackle the challenges of the virtual learning environment. Upon completion of all the necessary tests, the researchers will use the results obtained to suggest possible solutions that would help students in the e-based learning process and enable them to achieve better results.

Keywords: *Information and communication technology; Information literacy; Competencies; e-Learning; Moodle*

РЕЗЮМЕ

Този доклад разглежда резултатите от изследването на информационните и ко-муникационните компетенции на студентите, получени от наблюдение на две фокус групи от студенти – първокурсници и тестване на тяхната информационна грамотност. Групите са съставени от новопостъпили студенти, които се обучават в Катедрата по информационни науки към Философския факултет в Осиек. Студентите са разделени на групи според нивото на информационна грамотност, установено в процеса на първите практически занимания в началото на тяхното обучение. И към двете групи студенти – тези с по-ниско и тези с по-високо ниво на информационна и комуникационна компетентност, се използва един и същ метод на обучение, а именно смесено обучение. Този метод се прилага с помощта на системи, които подпомагат е-обучението, а по-точно LMS Moodle, с която се допълват конвенционалните методи на обучение. Нашата

работна хипотеза е, че студентите с по-високо ниво на информационна и комуника-ционна компетентност работят по-успешно във виртуалната обучителна среда. Чрез експериментална процедура трябва да се установи дали съществува действителна връз-ка между информационната грамотност на новопостъпилите студенти и тяхната способ-ност да се справят с предизвикателствата на виртуалната обучителна среда. След извър-шването на всички необходими тестове, изследователите ще използват получените ре-зултати, за да предложат възможни решения, които ще подпомогнат студентите в процеса на електронното обучение и ще им позволят да постигнат по-добри резултати.

Ключови думи: ифрормационни и комуникационни технологии; информационна грамотност; компетенции

INTRODUCTION

Information technology (IT), as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information. The term is sometimes used in reference to Information and Communication Technology (ICT). In an official United Nations document, Guttman (2003) emphasizes the importance of new skills necessary for living in knowledge societies, such as ICT competencies for the new generation of students and teachers.

New kinds of knowledge societies need a new set of skills: the ability to work in teams, communicate, solve problems, think critically and interpret large amounts of information.

Technology creates a new learning environment that changes the way students learn. They need to interact with each other more than before and collaborate through the Internet. Several countries have established a broad Internet access for schools; students can subscribe to digital libraries and access a much wider field of knowledge. That makes lessons richer and learning more stimulating.

ICT COMPETENCIES AND LIFELONG LEARNING

What does it mean to be ICT competent? Experts in this field sometimes use the term e-competencies instead of ICT competencies. Being e-competent means being digitally literate and having the ability to confidently and quickly learn how to work with, critique and creatively exploit new and emerging digital tools. According to Barajas et al. (n.d.), *digital literacy* cannot be compared to traditional forms of print-based literacy. Digital literacy refers more widely to the competencies required to effectively exploit the tools, practices and symbol systems made available by digital technologies. These competencies, referred to a current context of rapid change, can be seen as the update on your own to take advantage of future socio-economic transformations. If we look at the ICT knowledge of students in the context of lifelong learning, then these competencies must not only be optional, but a mandatory requirement (*A Memorandum on Lifelong Learning*, 2000).

The information network on education in Europe (Eurydice, 2001) has written that in today's world there shouldn't be a part of a population that is competence-rich and a part that is competence-poor, if countries want to develop the full potential of their human resources.

It is also important for the countries to reconcile two competitive dimensions of society: the first one that promotes excellence, efficiency, diversity and choice, and the second one that supports social justice and equal opportunities, solidarity and tolerance. These two opposing requirements also reflect on other crucial social skills, such as self-reliance, risk-taking, initiative, entrepreneurship, teamwork, consideration, solidarity, dialogue and active citizenship.

One of the main skills is literacy (*Recommendations of the European Parliament*, 2006). We can distinguish three types of literacy: reading, mathematical and scientific literacy. For the International Adult Literacy Surveys - IALS (Špiranec, 2003), **literacy** was defined as a particular capacity and mode of behavior, namely "the ability to understand and employ printed information in daily activities, at home, at work and in the community – to achieve one's goals and to develop one's knowledge and potential." In PISA 2000, the Programme for International Student Assessment, **reading literacy** was defined as "the ability to understand, use, and reflect on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate effectively in society." Also in PISA 2000, **mathematical literacy** was defined "as the capacity to identify, understand and engage in mathematics, and to make well-founded judgments about the role that mathematics plays in an individual's current and future private life, occupational life, social life with peers and relatives, and life as a constructive, concerned and reflected citizen." The Adult Literacy and Life skills Survey proposes the following definition for **numeracy**: "the knowledge and skills required to effectively manage the mathematical demands of diverse situations." Further, **generic skills, personal competencies, knowledge of foreign languages, social or interpersonal competencies** also affect the way a person can become ICT competent. Because the ICT has changed the way people interact and live through the computers and Internet, the ability to access, select and administer relevant data is considered a vital competence. Application of ICT is called **computer literacy**. Knowing the basics in **science** and **technology** is often a key competence.

How can these competencies help us in the process of lifelong learning? The answer to this question is, actually, very simple. The world of information, communication and technology has changed the way people live their professional and personal lives. Because of these changes we need to be ICT competent, so we can stay up-to-date with rapid changes which are sure to occur as the technology develops. So, lifelong learning is inconceivable without ICT skills, because they the very prerequisite to the new way of collecting, processing and managing information. ICT technologies have also changed the way people learn (*Report from the Commission*, 2000). Educational systems in other countries, as well as in Croatia, must undergo these changes in order to become effective and able to compete with others. Since Croatia is still a young country and because it takes time for an education system to change, it is important that we distinguish three phases countries go through as computers become more prevalent in education. These phases are (Fluck, 2001):

Phase 1: in which students in school first use computers and information technology becomes an elective course in the curriculum.

Phase 2: in which information and communication technologies are used transparently to enhance learning opportunities in all conventional curriculum subject areas.

Phase 3: where the universal curriculum clearly includes topics of study that would not exist without information and communication technologies and schooling for most students no longer fits the traditional face-to-face instructional model.

Some educational institution changes faster than the other. At the Department of Information Sciences in Osijek LMS Moodle (Learning Management System), respectively Virtual Learning Environment (VLE) is used in work with students. Moodle allows you to

create online courses with opportunities for rich interaction (student - student or teacher - student). It is an open source e-learning platform and people can develop additional functionality.

RESEARCH METHODOLOGY

A survey was conducted on a sample group of second and third year students at the Department of Information Sciences. The level of basic ICT competencies was examined that can eventually improve their quality of use of the e- learning tool, namely LMS Moodle. Students were exposed to a virtual environment supported by e-learning tool, namely LMS Moodle, in addition to the conventional teaching methods. The working hypothesis was that students who possess higher level of ICT competencies are more successful in working in a virtual learning environment. Experimental procedures are to establish whether there is a genuine connection between the information literacy of students and their ability to tackle the challenges of the virtual learning environment. Upon completion of all the necessary tests, the researchers will use the results obtained to suggest possible solutions that would help students in an e-based learning process and enable them to achieve better results.

RESULTS OF THE STUDENT SURVEY

Here is a short review of students' ICT competencies based on the survey. Table 1 presents descriptive statistical data of variables regarding computer management. According to the means from the data, students are most familiar with backing up files onto various media types (2.93), but they are less familiar with using a data projector (1,98).

Variables (Computer management)	Mean	Std. Deviation	Variance
Locate and run a program (software application)	2.64	0.533	0.284
Use CD-ROM-based software	2.74	0.497	0.247
Organize electronic files into folders	2.83	0.377	0.142
Search for files on the computer system	2.76	0.532	0.283
Move /copy files between drives	2.88	0.395	0.156
Backup files onto various media types	2.93	0.261	0.068
Print to various networked printers	2.88	0.328	0.107
Connect up the computer and its peripherals	2.45	0.705	0.498
Use a scanner for copying images	2.31	0.749	0.560
Use a digital camera for capturing images	2.29	0.742	0.551
Use a data projector	1.98	0.680	0.463
Health and Safety issues relating to the computing environment	2.21	0.682	0.465

Table 1: Descriptive statistical data of variables regarding computer management

Chart 1 below demonstrates the various tasks that students can perform for computer management.

Computer management

Chart data (Percentage of students):

- am aware of Health and Safety issues relating to the computing environment: 14.3 / 35.7 / 50
- use a data projector: 23.8 / 21.4 / 54.8
- use a digital camera for capturing images: 16.7 / 38.1 / 45.2
- use a scanner for copying images: 16.7 / 35.7 / 47.6
- connect up the computer and its peripherals: 11.9 / 31 / 57.1
- print to various networked printers: 0 / 11.9 / 88.1
- backup files onto various media types (floppy, CD-RW, USB Hard drive etc): 0 / 7.1 / 92.9
- move / copy files between drives (e.g. from A: to C:): 2.4 / 7.1 / 90.5
- search for files on the computer system: 4.8 / 14.3 / 81
- organise your electronic files into folders: 0 / 16.7 / 83.3
- use CD-ROM-based software: 2.4 / 21.4 / 76.2
- locate and run a programme (software application): 2.4 / 31 / 66.7

Percentage of students

- ☐ 1- I am not familiar
- ■ 2 - I am a little bit familiar
- ☐ 3- I am very familiar

Chart 1: Percentage of students familiar with different options of computer management

Students' ICT competencies such as using simple editing, spellchecker, headers and footers, templates for standard documents, drawing tools to create shapes and Autoshapes, importing text and images into a word processed document and other options of word processing are presented in Chart 2.

Word Processing

Chart data (Percentage of students):

- save a document in various file formats including HTML: 2.4 / 11.9 / 85.7
- mail merge: 14.3 / 45.2 / 40.5
- use the drawing tools to create shapes and Autoshapes: 0 / 33.3 / 66.7
- use headers and footers: 0 / 14.3 / 85.7
- divide the page layout into columns: 4.8 / 28.6 / 66.7
- create new document templates: 7.1 / 57.1 / 35.7
- use templates for standard documents: 4.8 / 38.1 / 57.1
- lay out text and images: 0 / 26.2 / 73.8
- include tables in a document: 2.4 / 21.4 / 76.2
- import text and images into a word processed document: 0 / 11.9 / 88.1
- use a spellchecker: 0 / 11.9 / 88.1
- use simple editing e.g. bold, italics, centring, font size etc: 0 / 7.1 / 92.9

Percentage of students

- ☐ 1- I am not familiar
- ■ 2 - I am a little bit familiar
- ☐ 3- I am very familiar

Students' use of spreadsheets like auto filling series, sorting data, inserting formulae, replicating formulae along rows/columns, producing charts and graphs for data analysis and understanding as well as their using relative and absolute cell-referencing is shown in Chart 3.

Spreadsheets
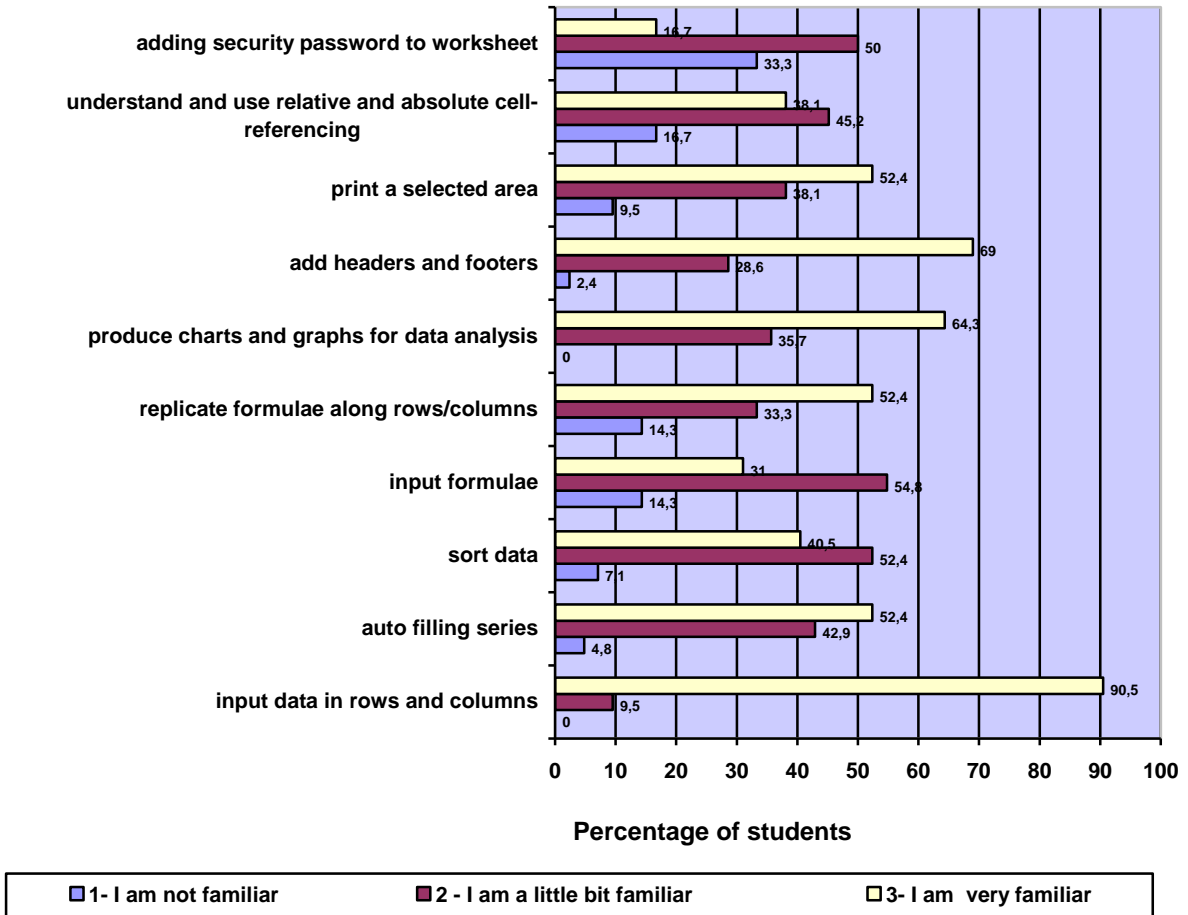
Chart 3: Percentage of students familiar with different options of spreadsheets

Students have very poor knowledge of working with databases especially with updating data in a database, creating different layouts for data entry forms and reports, sorting data, creating and running a query and producing a report (See Chart 4).

Databases

produce a report — 7.1 / 35.7 / 57.1

create and run a query — 9.5 / 33.3 / 57.1

sort data — 9.5 / 45.2 / 45.2

enter and update data in a database — 9.5 / 38.1 / 52.4

Percentage of students

□ 1- I am not familiar   ■ 2 - I am a little bit familiar   □ 3- I am very familiar
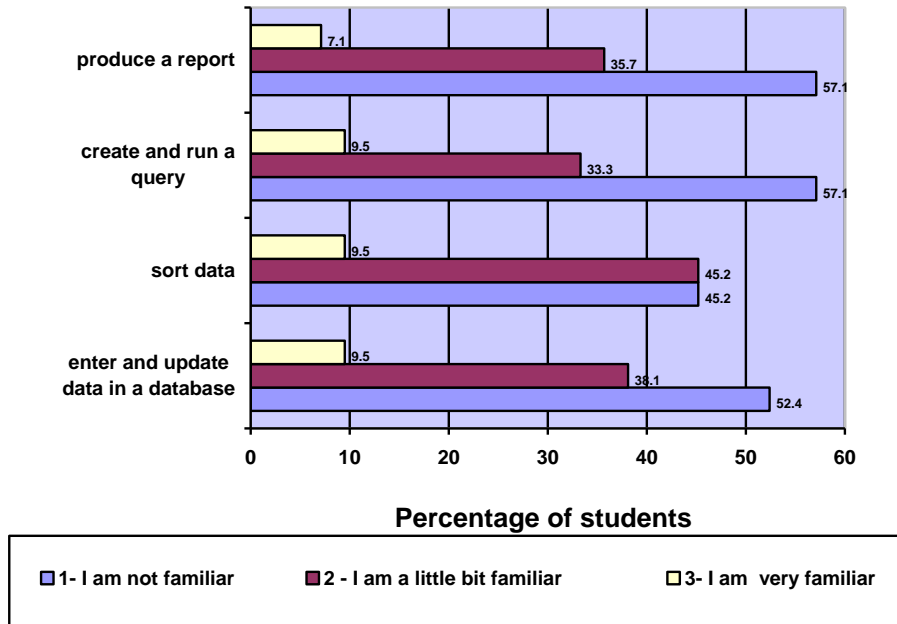
Chart 4: Percentage of students familiar with different options of databases

Students achieve much better results when working with presentation techniques such as creating a basic presentation package, adding clipart to slides, introducing animation onto slides, modifying transition between slides, editing a master slide, etc. (See chart 5).

Presentation

produce appropriate handout formats — 81 / 14,3 / 4,8

rearrange slides within a presentation — 78,6 / 19 / 2,4

incorporate an organisational chart — 64,3 / 31 / 4,8

incorporate a data chart or graph — 73,8 / 23,8 / 2,4

edit a master slide — 73,8 / 23,8 / 2,4

modify transition between slides — 78,6 / 16,7 / 4,8

introduce animation onto slides — 81 / 19 / 0

modify colours of text, lines and spaces on a slide — 85,7 / 11,9 / 2,4

add clipart to slides — 83,3 / 14,3 / 2,4

Percentage of students

□ 1- I am not familiar   ■ 2 - I am a little bit familiar   □ 3- I am very familiar

Chart 5: Percentage of students familiar with different options of presentation

The mean 2.95 is common for several variables dealing with using the Internet and e-mail, respectively using search engines to find information, sending and receiving e-mail messages, opening and saving files attached to incoming e-mails. This shows that students are very familiar with these options. In Table 2 can be seen the lack of students' use of logical operators when searching for information.

Variables (Using the Internet and e-mail)	Mean	Std. Deviation	Variance
Access an Internet site via its website address	2.86	0.354	0.125
Use search engines to find information	2.95	0.216	0.046
Use logical operators when searching for information	2.67	0.570	0.325
Use bookmarks / favorites for marking sites	2.88	0.395	0.156
Download files from the internet	2.86	0.417	0.174
Save text and images from web pages	2.90	0.370	0.137
Send and receive e-mail messages	2.95	0.216	0.046
Attach files to outgoing e-mails	2.90	0.297	0.088
Open and save files attached to incoming e-mails	2.95	0.216	0.046
Forward emails to selected contacts	2.88	0.328	0.107
Create new contacts in address book	2.88	0.328	0.107

Table 2: Descriptive statistics data of variables regarding Internet and e-mail

Presented in Chart 6 are students' responses to using Internet options.

Using the Internet and e-mail

Percentage of students

□ 1- I am not familiar   ■ 2 - I am a little bit familiar   □ 3- I am very familiar
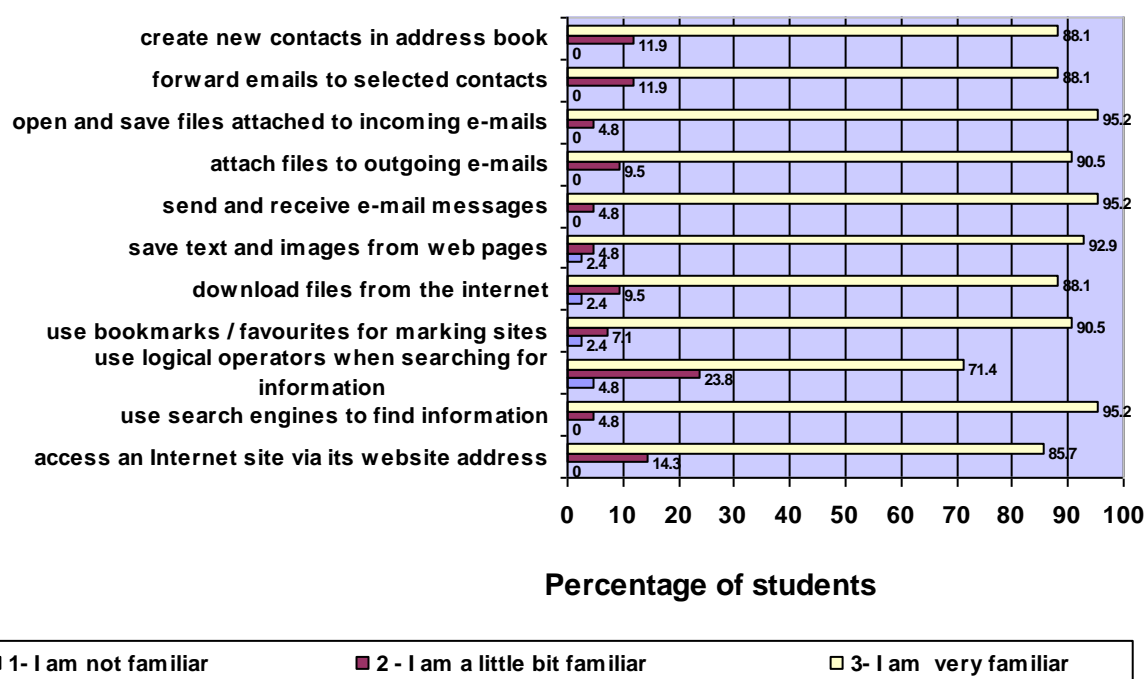
Chart 6: Percentage of students familiar with different options of Internet and e-mail

Table 3 shows descriptive statistical data of variables regarding LMS Moodle. According to mean of 2.9 for variables solving tasks through Moodle and monitoring recent news, it can be concluded that students are very familiar with these variables. Forum communication with other students (2.69) is a variable with which they are not so familiar.

Variables (Using LMS Moodle)	Mean	Std. Deviation	Variance
Searching and using teaching materials	2.88	0.395	0.156
Solving tasks through Moodle	2.90	0.297	0.088
Forum communication with other students	2.69	0.517	0.268
Real time messaging	2.79	0.520	0.270
Communication with teachers	2.83	0.377	0.142
Monitoring recent news	2.90	0.297	0.088
Completing Moodle online surveys	2.88	0.395	0.156
Monitoring one's own success	2.86	0.417	0.174

Table 3: Descriptive statistics data of variables regarding LMS Moodle

Chart 7 below shows some of Moodle features students were able to utilize with great success.
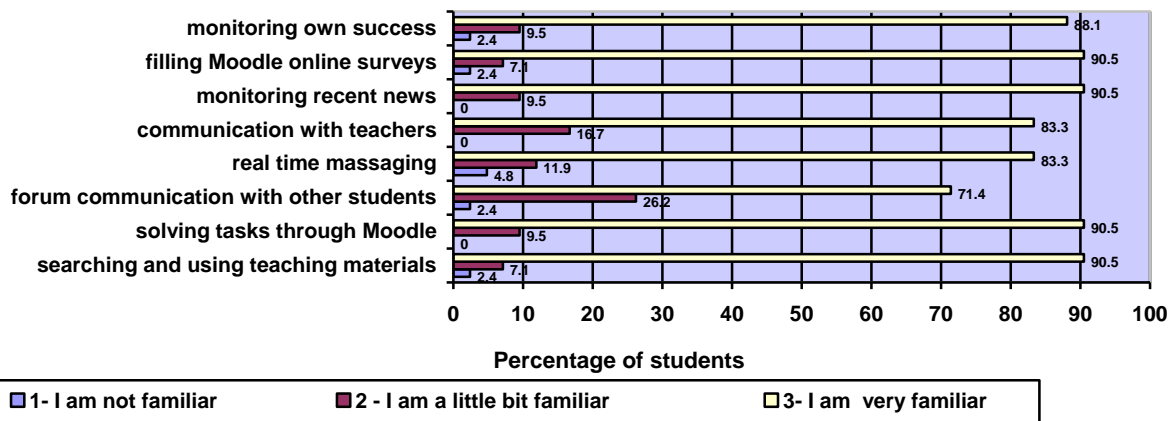
Chart 7: Percentage of students familiar with different options of LMS Moodle

CONCLUSION

According to the results of the variables analysis here are some conclusions. There is a strong correlation between the use of the Internet and working with e-learning tool LMS Moodle. The results show that students who use various online communication options also use communication tools integrated in LMS Moodle more. They visit forums, use real time messaging and communicate with each other and with the teachers. Furthermore, the results show that students who are better at managing files and folders and at using computer hardware and software are also more successful at using LMS Moodle. It would be interesting

to find out whether there is a connection between visual appearance of the e-learning virtual environment and other Internet services or how this interface design can affect students' learning outcomes.

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First Step to Lifelong Learning: School Libraries and Information Literacy: A Portuguese Case Study

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Първа стъпка към учене през целия живот: Училищните библиотеки и информационната грамотност: Случай от Португалия

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Салвина Са
Обществена библиотека Жозе Регио, Вила ду Конде
Португалия

ABSTRACT

This presentation covers a case study centered on the analysis of information behavior of a sample of students that visit the school libraries within the Vila do Conde municipality. We analyze the students' abilities to use collections and technological resources available in school libraries, namely their capacities in information searching and retrieval especially with the documents in free access. We emphasize the role of information literacy as a facilitating element in learning seeing as information literate people are those who learned how to learn and are able to locate, organize and use information effectively.

Keywords: Information literacy: Information behavior; School library

РЕЗЮМЕ

Тази презентация отразява изследване, което се занимава с анализ на информационното поведение на група ученици, посещаващи училищни библиотеки в общината на Вила ду Конде. Анализираме уменията на учениците да използват колекциите и технологичните ресурси на училищните библиотеки, а по-точно техните възможности за търсене и извличане на информация от документи на свободен достъп. Обръщаме особено внимание на ролята на информационната грамотност като елемент, който улеснява ученето, защото информационно грамотните хора се научават как да учат и могат да намират, организират и използват информацията ефективно.

Ключови думи: информационна грамотност: информационно поведение; училищна библиотека

INTRODUCTION

INFORMATION SCIENCE AND LEARNING

At a time when accessing information has become easier, aided by Information and Communications Technologies (ICT), the role of libraries and also of schools has changed significantly; these must work together and actively, viewing the encompassing of all citizens in an Information Society and, thus, contributing to the resolution of problems deriving from info-exclusion. Considering this, both schools and libraries, basing themselves on an interdisciplinary approach to Information Science and Education Science, should progress embracing new practices, including information literacy (ALA, 1989).

The term information literacy was used for the first time in 1974 by Paul Zurkowski in a paper where he advocated that this skill corresponded to the correct use of relevant information sources in the workplace (Bawden, 2001). At the same time, the idea that information literacy and learning were interconnected arose, seeing as ultimately, information literate people are those who have learned how to learn and are able to locate, organize and use information effectively. Therefore, information literacy constitutes a basis for life-long learning and cannot be seen as an isolated competency but rather as something transversal, capable of turning individuals into effective information consumers. It is what can be labeled an education facilitating aid in learning (Lenox, 1992; Walker, 1992).

Considering these premises, referential systems and models have ensued since the 1990's to establish Information Literacy parameters. The first one was published by the American Library Association (ALA) in 1989 and served as the foundation for subsequent referential systems. In 1998, this same association in conjunction with the Association for Educational Communications and Technology elaborated the referential *Information literacy standards for student learning*. Already in 1997, in France, FADBEN (Fédération des Enseignants Documentalistes de l'Éducation Nationale) had published a specific referential to aid teachers and librarians in creating pedagogical situations to develop competencies in information searching. In 1999, the Standing Conference of National and University Libraries (SCONUL), of the United Kingdom, published a model for the identification of information literacy competencies from an elementary level through to a higher level. The second edition of *The Australian and New Zealand Information Literacy Framework* was published in 2004. In general, all these models demonstrate, be it implicitly or explicitly, the importance of the interrelation of information literacy and lifelong learning. This notion was recently emphasized with the *Alexandria Proclamation on Information Literacy and Lifelong Learning* (2005) which states that "information literacy and lifelong learning are the beacons of the Information Society, illuminating the courses to the development, prosperity, and freedom."

Contextually, an Information Science constituted of a comprehensive transdisciplinary nucleus that integrates library science, archival science and information technological systems (ITS) must adopt approaches, whether in theory or methodology, used in other fields of knowledge, in this case in Educational Science, to scientifically understand information as a phenomenon and as a process (Silva and Ribeiro, 2002). In this way, we can understand the behavior of those who look for and use accessible information from the school library making it easier to adapt and develop services directed to the increase of adequate competencies thus dynamizing learning.

STUDY AIMS AND METHODOLOGY

To better understand the effective relation of Information Science and learning, a study case was carried out with the aim of analyzing the information behavior of the Vila do Conde municipality students, specially the use of the technological resources and the information

services available in the libraries. It was thus possible to determine whether school libraries are or not an active instrument in the teaching/learning process and whether they do perform their part in forming and widening the students' competences, in this way helping them to use information effectively and consequently leading them to autonomous information retrieval. We also ascertained the level of information literacy of various students from different school levels taking the stipulated referential systems into consideration. Accordingly and as an example, the *Australian and New Zealand Information Literacy Framework* (2004) defines a competent person in what concerns information literacy as one who has a need for information; who determines the scope of that need; as one who accesses information effectively; who critically assesses the information and the sources; one who can classify, store, handle and rewrite the gathered or produced information; one who selects and assimilates information; who uses information to learn, broaden horizons, solve problems and make decisions; who understands the financial, social, political and cultural conditions involved in using the information; one who accesses and uses information in an ethical and legal manner; who uses information to become a participating member of society with incumbent social responsibilities, and recognizing information literacy as a component of an autonomous and continuous learning.

Based on this definition we carried out a survey with a questionnaire that was handed out to a sample of students from each of the three school cycles of the Vila do Conde municipality of Portugal (see Endnote 1). This was performed by the teachers, during school hours during the month of February in 2006. A standard questionnaire was used for all three cycles and the only alteration was in terms of the language used in accordance with their level of instruction. The sample comprised of 231 pupils with ages ranging from 8 to 20 and consequently with different levels of instruction, ranging from the primary (1st cycle) and middle school cycles (3rd cycle) and high school. The students observed come from three primary schools (134 pupils), one middle school (48 pupils), and one high school (49 pupils).

The selected schools also belong to different social environments in this way contributing to a bigger diversification. Caxinas primary school (EB1) and Frei João junior school (EB2,3) are situated in a fishing town. Correios primary school (EB1) and Afonso Sanches high school are city schools and Guilhabreu primary school (EB1) belongs to a rural borough in the interior of the Vila do Conde district. The sample was predominately female and increasingly so the higher the level of instruction, indicating that most boys drop out of school earlier.

VILA DO CONDE DISTRICT SCHOOL LIBRARY NETWORK

In 2001 the district of Vila do Conde was one of the chosen areas to integrate the School Library Network, a project of the Portuguese Department of Education with the support of the administrative entity of the Town Halls. The main goal was to provide each school, independently of the level, with a library in order to develop reading habits and the access to information from an early age onwards. It is a progressive project and at present the network comprises 15 schools. The objective is to incorporate all the schools in the district.

The cooperation protocol established that the administration of Town Hall would provide all the technical support through the supply of software and bibliography. The municipality's responsibilities grow in relation to the primary schools seeing as libraries need to be built, in some cases, and furnished and equipped. Financial aid will be administered by DREN - Direcção Regional de Educação do Norte - The Northern Regional Education Board.

The José Régio Public Library of Vila do Conde comprises an OPAC that includes the catalogues of all primary, middle and high school libraries as well as of two educational centres (Centro de Ciência Viva and Centro de Actividades). The main idea is for all schools and institutions to effectively cooperate within the information network.

ANALYSIS OF THE RESULTS

Next, we will present some of the results obtained from the questionnaire and analyze the relevant data.

Library Attendance

Concerning the number of pupils registered at a library (public, school or other) it was noticeable that the older they got, the less they visited a library (1st cycle library attendance: 87%, 3rd cycle library attendance: 48% and high school library attendance: 39%). In primary school, the teachers often take the children to the library within school hours but in middle and high schools the teachers do not and the pupils' interests are also dispersing. Additionally, primary school pupils visit the library more often and within shorter periods of time. It is equally worth mentioning that at this level of instruction, many initiatives are promoted in the school library, namely story-time and other educational activities for children, apart from frequent visits to renew books. The middle and high school students who participated in the questionnaire do not have this routine.

Use of Information Access Instruments

The purpose of one of the questions was to infer whether the students knew how to use the Author and Title catalogue. It was a multiple choice question with the following as choices: "To know how to spell a word"; "To know the books that exist in the library"; "To know whether a book exists in the library or not"; "To know the news of the day"; "Don't know". After analyzing the answers, we concluded that the majority of the students made the correct choice, since more than 50% scored with the two correct choices. The 3rd cycle students always scored less than the other two levels. Surprisingly, the primary school pupils present a higher percentage of correct choices ("To know the books that exist in the library": 80%; "To know whether a book exists in the library or not": 82%) than the other two levels (3rd cycle: 46% and 65%; high school: 55% and 71%, for the two same options).

Another item of the questionnaire served to evaluate the students' knowledge on the Universal Decimal Classification (UDC) in the library context. The students should be able to understand the double function of this classification (information organization and localization) and choose the following: "To organize the documents by subject-matters" and "To find the documents by their subject-matters". It was evident that some students don't fully comprehend this double function seeing as they didn't choose these two options. Furthermore, 1st cycle pupils see the classification system as a way of organizing the library (92%), whereas 3rd cycle (98%) and high school pupils (82%) gave more importance to it in its function as a localizer. There is, however, a great percentage of high school students who do not distinguish between these two functions as well as those in 1st cycle. It is also necessary to refer that the wrong choices were incongruous with the UDC's functions ("To add color to the library"; "To organize the books by dates") which could explain why a high percentage of students answered correctly.

Given the opportunity to understand the general function of the UDC, when confronted with its use, the pupils showed great difficulty in associating the document to its category. The results obtained from the question where the pupils had to identify the topics under which five given documents had to be categorized, exemplified this. The percentage of 3rd cycle pupils capable of making the document correspond to its category, and still only in two situations, was 50%. High school students, on the other hand, chose in their majority not to answer this question. Regardless of that, in all cases, the percentage of correct answers is always less than 50% and in two situations the percentage of wrong choices greatly superseded the right ones.

One of the examples in the class 6 exercise was one with the topic "planes" and a significant number of students (46% of 3rd cycle pupils and 29% high school students), opted for

class 0. This may reveal unfamiliarity with the contents of class 0 allied to the difficulty in associating transportation to Applied Science (class 6).

The 1st cycle sample students are the ones that demonstrate greater knowledge in using the UDC seeing as the percentage of correct answers is always higher than 50%. This is valid if we keep in mind that the results are correlative with the framework of the primary school library. Accordingly, each UCD class or category was represented by different colors and symbols were given to each subclass or subcategory thus making it easier to memorize the organizational structure and consequently easier to use when doing research.

Choices in Information Retrieval

One of the competence defining parameters used in information literacy has to do with the capacity to retrieve information effectively and efficiently, which implies knowledge in the selection of information searching methods and techniques and on retrieval strategies. In this sense, we aimed at similarly verifying the sample students' ability to choose correct information search criteria. One question consisted of the pupils indicating what criteria should be used to determine whether there were books on a certain subject-matter, a CD with stated title and author, a film with a given title and the books written by a given author. In the case of the 1st cycle pupils, search by author was the easiest and where they scored most, 50%; search by subject proved more difficult with only 43% choosing correctly and search by author/title or only title proved to be the most difficult with just 34% of correct choices. However, even at the basic level of search by author, the students revealed considerable inadequacy because 33% chose not to answer and 24% made the wrong choice.

In the 3rd cycle and high school samples, we verified that information retrieval by subject-matter was more successful with 85% and 80% of correct answers. This may indicate that the conventional (author/title or title) elements of search are not the most important, meaning that the origin or source of the information is not being taken into account.

Seeing as the ability to formulate adequate information retrieval strategies is one of the most important information literacy skills, we verified, in our study, that students from different social and geographical settings display equally different behavior in solving the same problem. The pupils of Caxinas primary school (EB1), in a fishing town, revealed high capacity in applying search by author (69%) and by subject-matter (62%) evidencing themselves from the average of other primary school samples where 50% was obtained in search by author and 43% in search by subject-matter. The percentage of correct results is only negative (34%) in the more complex cross search by author and title, but even here Caxinas primary stands out (45%). Relative to this second criterion, we must keep in mind that we were working with 1st cycle pupils where this more complex information retrieval strategy is rare.

Make a Bibliographical Reference

Possessing the ability to organize and manage information correctly is another aspect that helps define information literacy, involving, for example, the elaboration of a bibliography reference. Thusly, one question involved the pupils making a bibliographical reference. This exercise was different for each of the three levels being assessed. The 1st cycle children were asked to build a given book's identification card where title, author, publisher and the year of publication had to be included; the 3rd cycle pupils were asked to identify title, author, publisher and the year of publication of a given bibliographical reference and, finally, the high school pupils were asked to choose a book from the library and write its bibliographical reference.

When performing the data analysis, a total reluctance of the high school students to complete this exercise was perceivable seeing as 90% did not perform the task, which might

be indicative of a gross lack of knowledge pertaining to the elements involved in bibliographical references and their organization. It is to be noted that somewhere else in the questionnaire there was one other question that contained a bibliographical reference as an example.

Relative to the 1st and 3rd cycle pupils, it was verified that they can distinguish the basic elements that compose a bibliographical reference. About 70% of the 3rd cycle students' answers were correct and the 1st cycle pupils' percentage of correct answers is between 50% and 70%.

Selection of and Access to Information Sources

A fundamental component of information literacy is the use of various information sources in any format suited to the problem and the context. It is therefore necessary to use skills when selecting and interacting with the most appropriate sources for the clarification of any sort of information need. Accordingly, we included a group of questions where the students were asked to select the source of information they considered to be the most pertinent in solving a stated information need. The range of selection was: a local newspaper, a weekly magazine, the television, the Internet, encyclopedias, a dictionary, and teletext. Two completely inadequate choices were also given: poetry to the 1st cycle and novels to the 3rd cycle and high school. These two choices merely served to test the reliability of the answers given.

Concerning the ability to satisfy the information needs with the adequate information source, the 3rd cycle, and high school students showed frankly positive results. They evidenced good use of teletext (74%), of the dictionary (80%), and of the Internet (62%). However, in the case of the 1st cycle pupils, even though their choices are generally correct (teletext (32%), the dictionary (77%) and the Internet (49%)), a significant percentage of them did opt for the incorrect choices. In this way showing they do not understand the function of the information source. For example, 3rd cycle and high school pupils make better use of the teletext than do 1st cycle pupils.

Relatively to accessing documents, all three groups of pupils demonstrate a clear preference of the Internet (1st cycle: 47%; 3rd cycle: 92% and high school: 71%) revealing at the same time an autonomous tendency seeing as only 49% of 1st cycle pupils admitted looking for the librarian's help, a percentage that decreases to 21% in the 3rd cycle and to 14% in high school. It is, however, debatable if this autonomy reflects real competence in looking for information since only the 1st cycle students (19%) indicate having chosen to perform the search by catalogue, an option that 3rd cycle and high school pupils omit. Curiously, and in accordance with what is illustrated above, theoretically speaking, the pupils evince understanding the functions of the Author and Title and Subject-Matter catalogues. Nonetheless, they do not seem to take advantage of the potential this instrument presents in information searching and retrieval. Apart from that, as they get older, the pupils tend to prefer the Internet as an information source since the percentage of pupils opting for available information in the library decreases. The percentages of students choosing library books as an information source are 57% in 1st cycle, 8% in 3rd cycle, and 29% in high school.

Relationship between Students and ICTs

Accepting that information literacy implies ability to manage Information and Communication Technologies (ICT) for different purposes, as a result, the students' opinion of the usefulness of the Internet was also surveyed. The pupils of all three levels of instruction reveal using the Internet for "To look for information", complementing this use with "For Work/Study purposes". Only the 3rd cycle pupils use the Internet mainly for "Entertainment" (79%) and "To meet people" (42%), and in fact this last option's percentage is practically insignificant (7%) in 1st cycle and limited (16%) in high school.

When crossing the data gathered on the students' models of Internet use and the sites they most frequently visit, various contradictions presented themselves. In fact, while stating that they use the Internet mainly for "To look for information" and "For work/study purposes", when questioned about the categories of the sites most visited it was verified that most of them were entertainment-related. For instance, 1st cycle students privilege sites related to "Games" (64%), "Films/Music" (35%) and "Sport" (22%), and the sites related to "Study" come in second place with 52%. 3rd cycle students are those who most frequently use the Internet for various purposes, scoring higher than any of the other two school levels in all categories of sites, but not so much for "Games" (48%), unlike in 1st cycle (64%). They do not use the Internet for "Mail" (48%) or for "Study purposes" (50%) as much as high school students ("Mail": 73%; "Study purposes": 71%). The 3rd cycle students revealed to be the greatest users of "Chat Services" (46%) unlike in the 1st cycle (4%) and in high school (22%) which coincides with the answers given, where 42% stated that they used the Internet to meet people.

Concerning the place where the PC is used, more than half of the total sample has a PC at home being this the most common place of use. 59% of the 1st cycle students have a PC at home, a percentage that increases to 76% in high school and to 88% in 3rd cycle. For the 1st cycle pupils (almost 52%) the school library is still, however, a common place to contact with computers.

On the other hand, in terms of the number of times they used a PC, only the 3rd cycle and high school pupils (63% and 53%) stated using the PC every day. Those in 1st cycle do not use one that often (32%).

In relation to internet access, we discerned that the majority of the high school pupils could access the Internet from home (55%) whereas only 33% of 3rd cycle pupils could do the same. Merely 32% of the 1st cycle pupils have a PC with Internet connection at home. It is worth noting that even though 88% of 3rd cycle pupils have PC's at home, only 33% have Internet access.

To conclude, high school pupils are those who in terms of percentage (41%) most frequently use a PC with Internet connection. Internet access seems, however, to be a rare practice not yet embedded in the study or leisure habits of the majority of the pupils. In fact, 25% of 1st cycle pupils and 23% of 3rd cycle pupils do it once a week.

SUMMARY

The results presented here demonstrate that, in their greater part, our pupils' sample start developing information skills and in contacting with libraries in the school environment since primary school level. This contact with the library decreases the higher the level of instruction. Evidently it is necessary to develop teaching and learning strategies that will encompass information literacy in all learning stages.

The school libraries comprising our study showed they possess enormous potential to provide the necessary conditions for the emergence of information literacy practices that will consequently aid in acquiring and developing knowledge on various subjects by means of teachers and librarians adopting interdisciplinary approaches. But this will only be possible when schools, teachers, school librarians and library coordinators, the Department of Education and the administrative entity of the municipality work together through the school library support service – SABE (Serviço de Apoio às Bibliotecas Escolares). This will generate occasions for the school library to induce information literacy contexts and practices that will allow students to contact with a proactive form of learning and new worlds and languages, growing into participative and creative members of the Information Society.

ENDNOTES

1. The Portuguese educational system is structured as follows:

    - 1st Cycle: 6 to 9 year olds (4 years) – EB1 schools
    - 2nd Cycle: 10 to 11 year olds (2 years) – EB2, 3 schools
    - 3rd Cycle: 12 to 14 year olds (3years) – EB 2, 3 schools
    - High school: 15 to 17 year olds (3 years) – High/Secondary schools

EB is an acronym of "Ensino Básico" meaning primary and elementary instruction.

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Information Literacy in the United Kingdom:
The Beginning or the End?

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Информационна грамотност във Великобритания:
Началото или края?

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ABSTRACT

„Enjoying Reading" is a new initiative in the UK to help every child love reading by encouraging schools and libraries to work more closely together, involving public libraries, school libraries and the schools libraries serve. Encouraging children to enjoy reading can be the start of development of information literacy. Yet school libraries are in danger because of various efficiency cuts, with computer suites deemed to be more important. A study has shown that the information literacy of young people has not improved with the widening access to technology. Many higher education libraries have been developing detailed information literacy programs and some employ Web 2.0 tools to reach the "Google generation." Public libraries take initiatives to enable provision for information literacy needs at various levels. There is evidence of the difference types of libraries working in partnership with others to enable provision. Information literacy is important regardless of the stage in life. However, there seems to be a paradox regarding initiatives to develop skills during childhood that can be developed as life progresses and resources in school libraries being cut at the same time.

Keywords: Information literacy; Literacy; Libraries; United Kingdom

РЕЗЮМЕ

„Удоволствието да четеш" е нова инициатива във Великобритания, която е насочена към обществените и училищните библиотеки и е предназначена за поощряване на любов към четенето у всяко дете като насърчава училищата и библиотеките да си сътрудничат все по-тясно. Поощряването на удоволствието от четенето у децата може да бъде начало на информационна грамотност. Училищните библиотеки обаче са заплашени от различни съкращения и се приема, че компютърните гарнитури са по-необходими. Едно изследване доказва, че информационната грамотност на младите хора не се подобрява с разширяването на достъпа до технология. Много библиотеки на висши учебни заведения са разработили подробни програми за информационна грамотност и някои използват инструментите на Web 2.0 за да достигнат до „поколението на Google". Обществените библиотеки предприемат инициативи насочени към задоволяване на потребностите от информационна грамотност на различни нива. Има сведения, че различни видове библиотеки се обединяват със същата цел. Информационната гра-

мотност е важна независимо от възрастта. Изглежда парадоксално, че едновременно с начинанията у децата да се насаждат умения, които могат да се развиват през целия живот, ресурсите в училищните библиотеки се съкращават.

Ключови думи: информационна грамотност; грамотност; библиотеки; Великобритания

INTRODUCTION

Information literacy is currently a hot topic for those in the library and information profession. The last six issues of *Library + Information Update* (June to October 2008 inclusive) carried feature articles on information literacy topics. The annual LILAC conference (Librarian"s Information Literacy Annual Conference) held in March 2008 focused on current initiatives and issues, and attracted an increasing number of delegates. There are also various initiatives to encourage information literacy opportunities for all age groups, from childhood through to senior citizens. Many of these initiatives in public libraries stem from or respond to *Framework for the Future* (Department for Culture, Media and Sport, 2003), which defines the UK Government"s ten year strategic vision for public libraries in England, and sets out current strengths and key areas for development for public libraries in supporting lifelong learning. Higher education information and library services have been developing detailed information literacy programs. Some academic and public library services have collaborated to provide new service delivery models for lifelong learning, particularly via the current trend of dual use libraries, such as The Bridge in Glasgow, which delivers services to both the students of a further education college and members of the public, increasing the take up of lifelong learning opportunities. Yet, alongside positive developments, new barriers are arising such as „efficiency savings". Can information and library services overcome these barriers and continue to develop and provide information literacy programs for their patrons?

READING AND INFORMATION LITERACY

Information literacy concerns how people search for information. One definition comes from CILIP (Chartered Institute of Library and Information Professionals) – "Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (www.cilip.org.uk/policyadvocacy/learning/informationliteracy/).

However, being literate is a precursor to being information literate. Libraries promote the pleasure of reading and offer reader development for all ages, and adult learning provision can be found in most public libraries (Ashcroft et al, 2005). Yet, there is perhaps a generational division regarding information literacy. The „web generation" (younger people) have grown up with the modern online information environment, which they use „naturally" - although it would be dangerous to regard the „web generation" as a homogeneous group. Thus there is great diversification in literacy needs and libraries have taken a variety of approaches at different levels. This was reflected in the fact that there were five keynote speakers at the 2008 LILAC conference, "representing a very diverse range of perspectives, considering both their professional involvements and their approaches to information literacy" (Hopwood, 2008).

CHILDREN AND YOUNG PEOPLE

Encouraging children to enjoy reading can be the start of development of information literacy. "Enjoying reading is an important new DCSF (Department for Children, Schools and

Families) funded initiative to help every child love reading by encouraging schools and libraries to work more closely together" (www.readingagency.org.uk). This initiative involves public libraries, school libraries, and the school"s library service. The DCSF believes that collaborative/partnership working between schools and libraries can help children and young people discover reading for pleasure, which is deemed critical to their life chances. *Enjoying Reading* explains how schools can make the best of what the library system has to offer. On offer is a range of resources and tools, including primary and secondary booklets for teachers, and a website (www.enjoyreading.org.uk), which has information, research, case studies, an ideas bank and other resources which demonstrate how library staff and teachers working together can achieve common aims.

It seems that this relationship between teachers and library services for schools needs to be strengthened. The Childrens" Literacy Special Interest Group of the United Kingdom Literacy Association is concerned about a decline in children reading for pleasure. The Group researched primary teachers" reading practices and investigated the nature of their involvement in local school library services. Responses for the questionnaires for this research came from 1,200 teachers in 11 local authorities in England, which represented urban, inner city and rural areas. Whilst over 73% of these respondents had read for pleasure during the last month, there was not such a high percentage for visiting a local library with a class. 403 teachers did not respond at all to this question, 60.1% of those who did respond last made such a visit over 6 months ago, 18.1% have never done so and only 7.7% did so within the last month (Cremin et al., 2008).

At the same time as the positive initiative of „Enjoy Reading", negative developments are occurring. Brabazon (2008) reports that "school libraries are suffering, even closing, as resources are cut, staff „redeployed" and the internet deemed to be more important to learning than printed matter and professionals who can sort the wheat from the chaff". These „cuts" appear in many guises, one of which relates to the school"s library service (SLS). While providing resources and a loaning service for teachers and ensuring the development of quality materials, it seems that "there is stark neglect (or denial) of their knowledge by local authorities, head teachers and politicians" (Brabazon, 2008). Another aspect is an almost imperceptible decline within existing school libraries. Closures might be apparent, such as the situation from the Highlands Council, whose efficiency savings will be achieved through the loss of librarian jobs, reduced access to resources by teachers, reduced acquisition of stock and delay in development of online facilities. However, gradual reductions are not so apparent, such as the situation in some Kent schools where some librarians have been replaced by part-time, non-trained staff, and books dispersed to departments, and library spaces changed into computer suites and renamed leaning resource centers. Information literacy skills cannot be gained via internet connection. Perhaps even less obvious is the absence of libraries in some of the new academies – either in the plans or in the building. For example, the Mossbourne Academy in Hackney has only computer suites and no library. There seems to be a paradox with initiatives to develop information literacy skills in young people and the reduction and cuts in provision of library services that work to this aim.

HIGHER EDUCATION

There are many examples of good information literacy programs developed by higher education libraries. CILIP (Chartered Institute of Library and Information Professionals) has a special interest group – the Community Services Group Information Literacy Group (CSG ILG). The group aims to provide a forum to exchange knowledge and to encourage debate on information literacy across all sectors of the profession. The group commissioned three case studies in 2006 to illustrate best practice in delivery and/or promotion of information literacy in differing library sectors – higher education, public libraries, and school libraries – and these

are posted on the website (www.cilip.org.uk/policyadvocacy/learning/informationliteracy/). The higher education case study comes from Newcastle University, presenting their Information Literacy Toolkit and Forum. This was designed for a cohesive approach across the curriculum, to create a learning environment in which students will develop as information literate people and to provide a mechanism by which academic staff can integrate information literacy into their teaching. Whilst the toolkit was the intended outcome of the project, another important outcome developed – the Information Literacy Forum, which is developing as a Community of Practice with regular meetings and online communication.

However, the massive development of Web 2.0 tools indicates that the information environment can now be viewed very differently than it did as recently as two years ago. Many libraries are now using online applications and tools, which allow individuals to interact, create and share information using the Web as a platform. These tools offer a bridge to the "Google generation" as well as providing new ways to reach users and tools with which to teach them (Godwin, 2008a, p. 8). Godwin (2008a) also points out that librarians have to decide where Web 2.0 tools fit in relation to information literacy teaching. Some, such as Wikipedia, can increase the subject content available to students, and some, such as blogs and YouTube, can be used to deliver information literacy. Godwin (2008b, p. 178) concludes that it is of critical importance that the information literate person should be able to interpret the context of what is found based on healthy skepticism of everything (s)he sees on the Web of the future.

At the London School of Economics (LSE), RSS has been used to enhance access to training courses and information literacy classes for staff and for students. LSE experiences show that RSS has information literacy implications in that users must re-think about the ways in which they access information on the web. Users are offered a mechanism for picking up new information automatically rather than having to look for it on the web, but the tools to do so require a greater level of information literacy on the part of the user. There seems to be a paradox that technology has provided the opportunity to make training more widely available, but users need greater information literacy skills to exploit this technology (Fryer & Secker, 2008).

The joint JISC and British Library study about the information behavior of the researcher of the future (www.jisc.ac.uk/whatwedo/programmes/resourcediscovery/googlegen.aspx), the *Google Generation Report* found that "the information literacy of young people has not improved with the widening access to technology: in fact their apparent facility with computers disguises some worrying problems". As Brabazon (2008) points out, if a generation of students, both in primary and secondary schools, are going through their education without a properly funded library and the help of qualified librarians, then information literacy levels will suffer as will universities and other higher education institutions – then ultimately workplaces.

This point is reinforced by Research from Glasgow Caledonian University, which shows that students arriving at the university generally have either poor or limited information literacy skills (www.gcal.ac.uk/ils/). *The Scottish Information Literacy Project: Working with Partners to Create an Information Literate Scotland* has an initial focus to link secondary and tertiary education and develop an information literacy framework which, at the end of the project, could be rolled out to other participants. The work on the *National Information Literacy Framework (Scotland)* is being developed with cross-sector partners. It is ongoing, but it has been expanded to include the primary school sector and lifelong learning. There was also a reminder in this report that the information literacy skills of teachers were not being passed to students.

PUBLIC LIBRARIES

Framework for the Future (Department for Culture, Media and Sport, 2003, p. 6) proposes a vision for public libraries where they support people at all stages in their lives in reading, learning, finding information, etc, and points to a key strength of public libraries as operating as „community centers of formal and informal learning". It also recognizes that a key strength that public libraries have is their position within local communities, and their sense of local connection (Department for Culture, Media and Sport, 2003, p. 43).

Whilst the *Enjoying Reading* initiative encourages schools and libraries to work together, the Reading Agency"s *Summer Reading Challenge* takes place in the summer holiday period through 97% of UK public library authorities. Starting as an experiment, it now reaches 650,000 children a year and is the largest national reading program for 4 to 11 year olds. The Reading Agency was founded as an independent charity in 2002 by merging three smaller agencies, and it tries "to find the funding (not always easy) to help the sector prove the impact it makes through supporting reading" (McKearney, 2007, p. 40). Through a deep partnership with the library sector, the Reading Agency has established innovative national reading programs and partnerships which are making a real difference to readers. The Reading Agency with the National Literacy Trust, on behalf of the Department for Children, Schools and Families, is developing projects during the *2008 National Year of Reading in* partnership with publishers, the Richard & Judy Book Club, Orange, BBC Learning and BBC Radio. This demonstrates the importance of partnership working.

Public libraries have been successful in engaging young children, but have found it harder to the keep the continuity of engagement during teenage years. Libraries need something new to attract large numbers of teenagers, appealing to those who would never join a reading group (Styles, Roberts & Harrison, 2008). The Reading Agency is rolling out its HeadSpace program – a visionary new kind of library developed with young people, which offers teenagers new kinds of library spaces. The aim was for young people to become active partners right from the start. Prototypes were developed in Bolton and Lyme Regis, since when it has been launched in many more regions. It has created a model for working with young people, who can get involved in everything that goes on in the development, management and delivery of the services they want to use. "It succeeds in attracting and, more importantly, developing their interest" (Styles, Roberts & Harrison, 2008). HeadSpace will soon have a virtual presence as part of groupthing.org as the Reading Agency"s new tool to help public libraries engage young people in reading through two aspects important to today"s young people – being online and generating and exchanging their own creative comment.

The Reading Agency also runs a program called the *Vital Link* which helps library authorities provide a service for adults who are trying to improve their literacy skills. This is one example of how public libraries work in partnership with other agencies to provide reading and literacy programs for their patrons of all ages. Research into provision for adult learners in public libraries in England (Ashcroft et al, 2005) found that public libraries were working with a range of partners to enable provision for their adult users" information literacy needs at various levels. This information literacy provision ranges from short introductory courses and taster sessions on a variety of topics, e.g., First Steps, ESOL courses, tracing your family tree, silver surfers and University of the Third Age. The range of courses on offer demonstrated that some are designed with the particular community in mind, for example „Birmingham Pride" and „Beatles courses", which also provide „hooks" which could entice new learners. However, some provision related to initiatives that were current at the time. It must be questioned how sustainable such provision is after an initiative is finished.

Family learning is another way of attracting adult learners and promoting the skills for life agenda. An investigation of current provision and ongoing development of family learning services in UK public libraries services by Kirk, McMenemy and Poulter (2004) indicated a

range of family learning activities – ICT, homework support, family history, literacy, numeracy, reader development, arts and crafts, with ICT being the most common type of learning activity. This was encouraging as family learning was then in the early stages of development, yet evidently widespread in UK libraries. Information literacy pertaining to family activities were amongst the range of services found to be on offer (Ashcroft et al., 2005), such as a course being run to support parents and build confidence being offered in partnership with the BBC"s *Get Parenting* initiative (BBC, 2005). The Campaign for Learning is extending its annual celebration to a month long (October 2008) Family Learning Festival, and libraries have been invited to run special events for the Festival and will be one of the places where it is happening. In just one week in 2007, over 3,500 organizations held family learning events and many of these were held at libraries or run in partnership with local library and information services. (www.familylearningweek.com).

Another aspect of family learning comes from the Reading Agency – the *Big Book Share* program. Librarians run sessions at which prisoners talk about and choose children"s books to read on tape for their children, and this helps parents in prison support their children"s reading development.

PARTNERSHIP WORKING

Framework for the Future discusses the considerable benefits to be gained from public libraries working in partnership with other organizations. Partnerships might also be forged regionally, to help build links between libraries and formal adult learning service providers. (Department for Culture, Media and Sport, 2003, p. 13) However, the report calls for public libraries to be distinctive: ,[public libraries] should not duplicate the efforts of other public and private sector providers but complement them through partnership working" (Department for Culture, Media and Sport, 2003, p. 7).

Furthermore, the key issues regarding lifelong learning for library and information services identified by CILIP included calling for libraries to establish links with education institutions and other relevant organizations in order to provide a seamless service for learners, having user-focused staff, who are skilled in supporting learners, providing access to a variety of resources in different formats (e.g., print, media, digital), and working in partnership with other libraries and other institutions (www.cilip.org.uk).

Public libraries take initiatives to enable provision for their adult users" information literacy levels at various levels. Some of this provision has been enabled via the establishment of the Peoples Network, and some provision has been facilitated by partnership initiatives with other organizations. Ashcroft et al. (2005) reported that respondents discussed the benefits of working in partnership with other organizations to provide adult learning services, particularly reciprocal advantages. These benefits included joint advertising/marketing, sharing skills, sharing costs and sharing facilities. Respondents mentioned that as well as signposting adult learners to partner organizations where appropriate, these partner organizations also sign-posted their users to libraries – a working reciprocal relationship. For example, asylum seekers may be signposted to libraries by organizations which are aware that libraries offer online facilities.

Clearly one aspect that runs throughout the initiatives discussed is partnership working, including:

- Schools and school teachers working with public libraries and librarians
- Higher education librarians working with faculty and also collaborating with other institutions

- Public libraries working in partnership with other agencies, such as the Reading Agency
- Young people becoming active partners in the HeadSpace program.

The Bridge, a merged college and public library service, delivers an improved service to all users as a result of the partnership. It shows how shared services can be transformational when they are focused on the needs of the user. "The service now supports a substantial increase in learning activity in the Greater Easterhouse area" (Kearner, 2008).

CONCLUSIONS

Lack of access to libraries and lack of help from qualified librarians during school years can results in low levels of both literacy and information literacy skills, which impinge on adult life. Whilst initiatives address some aspects of this problem, a paradox exists because of reduction and cuts in provision of library services that work to achieve these skills.

Technology alone is not the answer as the *Google Generation Report* found that the information literacy of young people has not improved with the widening access to technology. However, many libraries are now using online applications and tools, which offer a bridge to the "Google generation," by allowing individuals to interact, create and share information using the Web as a platform. These tools provide new ways to reach users and tools with which to teach them. Yet there is perhaps another paradox in that while technology has provided the opportunity to make training more widely available, some users need greater information literacy skills to exploit this technology for best advantage.

Will "efficiency savings" spell the "end" for development of information literacy? Does information literacy have a new „beginning" with the use of Web.20 tools as a means to reach people? Does the development of library partnerships with other organizations for provision of services indicate a „beginning" of disparate provision and a signaling of an „end" to cohesive provision?

According to the research into information literacy skills undertaken by Glasgow Caledonian University:

> The development of a national overarching framework of information literacy skills and competencies which all sectors of education can recognize and develop or which can be applied to the world of work, equipping learners with skills needed for the 21st century is seen as a key tool for the embedding of information literacy in schools, FE, HE, and lifelong learning and for life. (www.gcal.ac.uk/ils/framework.html)

Work on this National Information Literacy Framework (Scotland) is ongoing, but it seems that a strategy for information literacy is needed across the UK. Members of the UK Information Literacy Sub Group have met government ministers, but there is much room for progress.

Perhaps focus is needed for a national strategy such as that of Finland, which can be seen as a model for other countries according to the High Level Colloquium on Information Literacy and Lifelong Learning held in Alexandria in 2005. This project in Finland succeeded in making its political decision makers aware of the importance of information literacy. The project was funded by government and aimed to raise the profile of information literacy by information decision makers at all levels, integrating information literacy into academic studies and testing the implementation of information literacy with different projects (Stubbings, 2008).

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Digital Library Architecture: An Example of How to Create a Virtual Collection

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Архитектура на дигиталната библиотека – пример за създаване на една виртуална колекция

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ABSTRACT

The presentation explains the model which was followed during the creation of our virtual collection from digitalized periodicals printed in Varna through the end of the 19th century, and the beginning of the 20th century. The steps of data structure design, the approach and criteria used in data selection, are described in detail.

Keywords: Virtual collection; Digitization; Periodicals

РЕЗЮМЕ

Тази презентация е опит да се сподели моделът, който е следван при създаването на виртуалната ни колекция от дигитализирана варненска периодика от края на XIX и началото на XX век. Разгледани са подготвителният етап и подходът при структурирането на данните, включени в колекцията; критериите за изграждането й, както и възникналите проблеми.

Ключови думи: дигитални библиотеки; дигитални колекции.

Предпоставки за възникване на този проект. Решението за създаване на дигитална колекция в Регионална библиотека „Пенчо Славейков" е свързано с реализирането на дългосрочната стратегия на библиотеката по опазване и показване на фонда с цел разширяване географията на представяне на културно-историческото наследство на Варна и региона. Този проект кореспондира с решенията на Европейския съюз относно опазването на културно-историческото наследство и предлагането му в Интернет, а така също и с повишаване качеството на живот на гражданите и информираността им.

А. ЗАЩО СЕ НУЖДАЕМ ОТ ДИГИТАЛНА КОЛЕКЦИЯ

В Препоръката на Европейската комисия от 24.08.2006 г. „За дигитализацията и предоставянето в Интернет на материали от културния фонд и цифровото им съхранение" са формулирани трите ключови проблема, към разрешаването на които е насочена стратегията i2010 - Дигитална библиотека, а именно: онлайн достъпът, цифровизиране на аналоговите колекции, съхранение на цифровите информационни ресурси и осигуряване на достъп до тях за бъдещите поколения, както и предотвратяването на загуба на информация.

Задаването в този контекст на въпроса „Защо се нуждаем от дигитална колекция?", довежда до отговори, които напълно кореспондират с препоръката на комисията:

• Опазване и съхранение на материали от определени колекции от фонда на библиотеката, включително Варненски периодични издания от края на XIX и началото на XX в., снимки, картички и архивни документи и възрожденска книжнина;

• Прибавяне на добавена стойност (add value) към оригиналния документ.

  o Осигурява се технически неограничен достъп до документа, независимо от време и място. В тази връзка дигитализирането на материали и тяхното публикуване в глобалната мрежа прави възможно ползването им като част от световното културно наследство, което е достъпно за всички граждани в рамките на тяхното обучение, работа или свободно време;

  o Дигитализираните материали могат да се използват и в други сектори от икономическия и културния живот;

  o Няма ограничения в копията на документа.

• Съблюдаване на „закона" на дигиталния век: ***„АКО ДОКУМЕНТЪТ НЕ ПРИСЪСТВА В МРЕЖАТА, ТОЙ НЕ СЪЩЕСТВУВА ВЪОБЩЕ!"***

В свят, доминиран от търсачки (търсещи машини), „съществуването" и „известността" се определят от позицията, която ти дава машината - числов и „качествен" показател за „популярността" и „професионализма". Окрупняването на търсачките довежда до доминиране на една-единствена търсеща машина и до „Гугълизация" на световната мрежа.

Б. ПРОЕКТЪТ „ДИГИТАЛНА БИБЛИОТЕКА – ИЗГРАЖДАНЕ НА ПРОТОТИП И СЪЗДАВАНЕ НА ОПТИМАЛЕН МОДЕЛ"

• Избор на екип, включващ:
  o компютърни и библиотечни специалисти, изготвили профила на колекцията;
• Характеристика на колекцията
  o уникални издания от варненския периодичен печат и материали от фонда - пощенски картички и снимки, издадени в края на XIX и началото на XX в.;
Подбраните издания са уникални и са единствено притежание на Варненската библиотека. В съответствие с директивата на Европейската комисия, ние очакваме действия за изготвяне на национална програма в областта на дигитализацията. Тази програма трябва да предотврати дублирането на усилията в тази област, да обезпечи прилагането на единни стандарти при дигитализацията, като по този начин постигне мобилност на цифровите материали не само на национално, но и на международно ниво, което би могло да осигури многоезично кръстосано търсене.

Материалите, подлежащи на дигитализиране в Регионална библиотека „Пенчо Славейков“ са произведения, за които е трудно или невъзможно да се определи на кого принадлежат авторските права.

- Техническо осигуряване на проекта.

В. ПРЕСТРУКТУРИРАНЕ НА БИБЛИОТЕЧНАТА ОРГАНИЗАЦИЯ

- Изградена е „Дигитална лаборатория“ - мястото в библиотеката, където документът получава „нов живот“.

  o При избора на името е търсена аналогия с отминалите времена и средновековните манастири, и по-специално с тези места, където са се случвали различни тайнства, довели до уникални открития и дали тласък на човешкото развитие;

- Създаване на нов **„виртуален мегаотдел“**, включващ служители от:

  o отдел „Регионална история“;
  o отдел „Информационни технологии“;
  o отдел „Справочно-библиографски и информационен център“;
  o отдел „Периодични издания“;
  o отдел „Редки и ценни издания“.

Обединяването и кооперирането на усилията на служителите от отделите, пряко и непряко ангажирани в процеса по дигитализация, доведе до размяна на „ролите“ на различните участници, което от своя страна води до трансформиране на преките им задължения, нов тип мотивация, нови умения, носещи им по-голямо удовлетворение при изпълнение на преките им задължения.

Схема на отношенията във "виртуалния отдел"
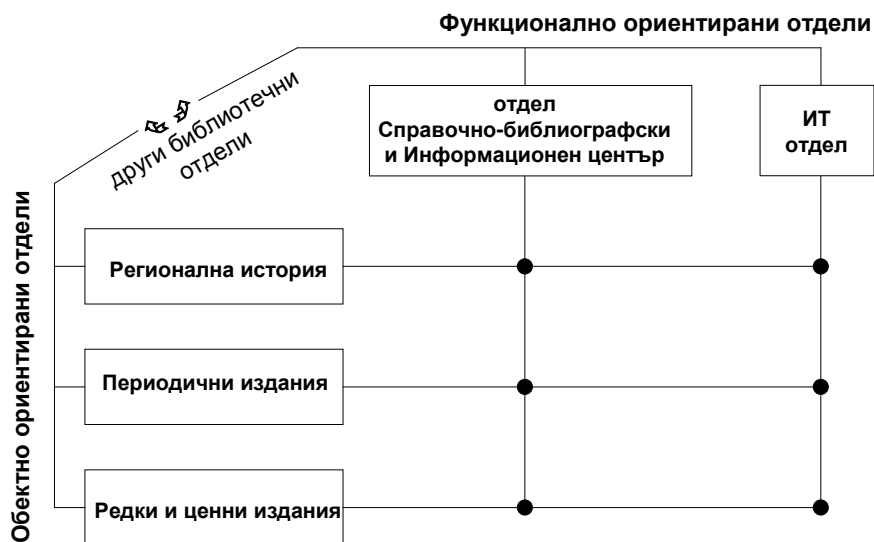
Матрицата на отношенията показва не само директните връзки между включените в процеса на дигитализация отдели, но и индиректните такива. Постигната е оптимизация на процесите и връзките между субектите във виртуалния отдел.

Обектно (предметно) ориентираните отдели са отговорни за профилирането на фонда, както и за дългосрочното планиране на процеса;

Функционално ориентираните отдели са отговорни за софтуерното и програмно осигуряване на процеса, както и за атрактивното му представяне в Интернет.

Специалистите в Регионална история и Информационни технологии изграждат гръбнака на **Дигиталната лаборатория**.

ТЕХНИЧЕСКИ РЕШЕНИЯ НА ПРОЕКТА

Основните критерии, приложими при планирането на техническите и софтуерните задачи, са:

• ефективност и производителност на техническите средства. Необходимо е процесът по дигитализация да има ниски разходи както по време, така и по труд и вложени средства.

• пълен и завършен цикъл на процеса – от сканирането на документа и „архивирането" му за идните поколения до предоставянето му на потребителя.

След направени редица проучвания бе избран скенер на BookEye-2, предлаган от компанията Image Access Inc.

Софтуерното решение включва:

• организиране на метаданните в база данни, в т.ч. библиографски описания на периодичните издания, пощенските картички и снимки;

• интегриране на сканираните изображения и библиографските описания в електронния каталог;

• прозрачност и паралелност на процесите – сканиране на изображения, създаване на оригинални библиографски записи и т.н.

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Local storage

Създаване на библиографски запис

Bookeye GS400 BCS-2, Grey Scale

Format: A3+
Resolution: 200, 300, 600 dpi
Scan time:
• 2 sec / A4 portrait
• 2.2 sec / A3 landscape
• 3 sec / A2 landscape

Software: BCS-2®

Обработка на изображения и индексиране

HP ScanJet 7400C

Format: A4
Res: 2400x2400 dpi

HP ScanJet 5530

Format: A4
Res: 2400x2400 dpi

DB servers

WEB достъп

e-Archive

Автоматичен архив на данните

Д. ИНФРАСТРУКТУРА И ОРГАНИЗАЦИЯ НА ДАННИТЕ

Технически параметри

- Статии от периодичен печат

  o Резолюция – 300 dpi
  o Изходни формати – JPG, PDF

- Пощенски картички и снимки

  o Резолюция – 300 dpi
  o Изходни формати – TIFF, JPG

- Книги –възрожденска книжнина

  o Резолюция – 300 dpi
  o Изходни формати – PDF

Обработка на сканираните изображения

- Автоматично създаване на изображения, готови за публикуване в Интернет – TIFF, JPG и PDF;

- OCR обработка (опция);

- Именуване на файловете;

- Качествен контрол и проверка на изображението – размер, ориентация, отстраняване на дефекти;

- Запазване на отделно архивно копие с цел дългосрочно съхранение.

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Финализиране на записа

- Свързване на изображението с библиографския запис и интегрирането му в базата данни;

- Автоматично публикуване на уеб сървъра;

- Контрол на релацията библиографски запис – изображение;

- Достъпност на данните – незабавна видимост в локалната мрежа и Интернет.

АРХИТЕКТУРА НА ВИРТУАЛНАТА БИБЛИОТЕКА
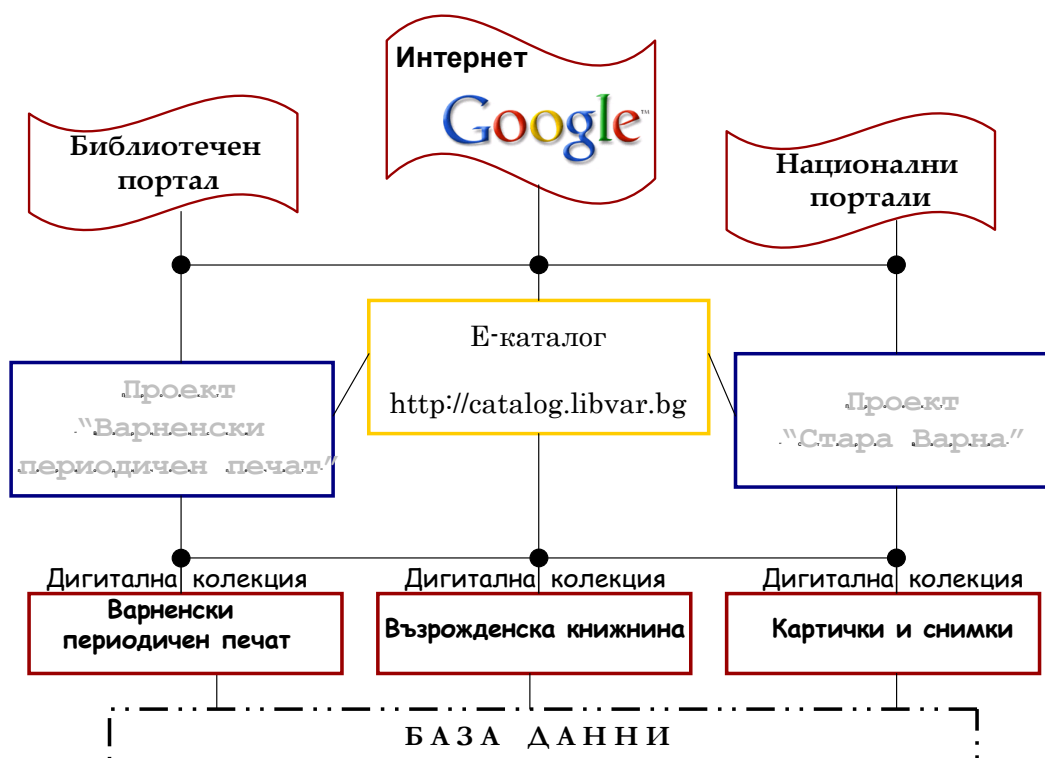
Предстои дефиниране на времевата таблица за постигане целите на проекта за дигитализация

Е. ПРОБЛЕМИ И ПОЛЗИ

Възникналите **проблеми** са от общ характер, а не от технически. Те могат да бъдат формулирани по следния начин:

- При процеса по дигитализация на фонда трябва да се търсят начини за споделяне на ресурсите чрез създаване на консорциуми. Много от българските библиотеки се опитват да работят в тази посока, но за съжаление все още няма утвърдена национална стратегия;

- Съществува дублиране на усилията, свързани с процеса по дигитализация;

- Няма ясна политика относно използваните формати за съхраняване на данните и това поставя под съмнение тяхната съвместимост;

- Все още този процес е с високи финансови разходи.

Към **ползите** могат да се отнесат:

- Частично разрешаване на проблема с опазването и съхраняването на фонда;

- Видимост и достъпност на колекциите в Интернет;

- Широко популяризиране в мрежата на материалите от културния фонд – провокиране на интереса на съвременния net читател.

И в заключение може да се отбележи, че дигитализацията не е просто цифрово съхраняване (архивиране) на данните. Това е процес, при който информацията се представя във формат, отговарящ на изискванията на съвременното общество.

Безсмъртието в дигиталната ера не е проверено или установено понятие. Публикувайки в мрежата, ние вярваме, че следата, която сме оставили, ще е вечна, така както машините ще се грижат за данните във виртуалната среда. Това е вид утопия – религия, основаваща се на **Вярата в чудесата на дигиталната ера**.

А имаме ли отговори на въпросите:

- Колко вечни са тези документи?

- Колко надеждно се съхраняват?

- И … ще бъдат ли съвместими с технологиите на бъдещето?

ЛИТЕРАТУРА

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2. Commission Decision Issued on February 14[th], 2006 **Setting up a High Level Expert Group on Digital Libraries** (2006/98/EC)

3. European Parliament Resolution Issued on September 27[th], 2007 **On i2010: towards a European digital library (2006/2040(INI))**

4. **i2010 – A European Information Society for growth and employment** {SEC(2005) 717} /* COM/2005/0229 final */

5. **i2010 – Digital Libraries, brochure** issued by European Commission Office for Official Publications of the European Communities

6. Дичев, И. – *Е-топии. Фанатизмът WWW*; сп. Социологически проблеми, 3-4/2004

Electronic Library of the Bulgarian National Statistical Institute: Statistical Information in Digital Format

Antoaneta Parusheva and Sonia Zlatanova
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Bulgaria

Електронната библиотека на Националния статистически институт: Статистическата информация в дигитален формат

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Национален статистически институт
България

ABSTRACT

The Library of the Bulgarian Statistical Office was set up at the end of the 19[th] century in compliance with the Law on the Department of Statistics of Bulgarian Principality (December 10, 1897). The library has a unique position for the country's fund of statistical and economic publications on national and international statistics, since the time of its set up. There are some bibliographically unique editions, owned by the Library, which are exceptional editions of a true merit. The library fund is over 35,000 volumes. The activities of the library are an integral part of the BNSI information services. A bulletin of all newly issued statistical editions is published. More than 7,000 local and foreign users of statistical information are served per year. The Library accomplishes traditional books and publications exchange with more than 90 international institutions and organizations, such as UN, EUROSTAT, UNIDO, UNCTAD, FAO, UNESCO, IMF, WTO, WHO and statistical offices from all over the world. The information and communication technologies have a unique importance for the development of libraries and their transformation into ambassadors of the Information Society. In response to Lisbon's strategy requirements for the building up of Information Society, the BNSI library has realized ambitious activities concerning the creation of a digital database. Nowadays the Electronic Library of BNSI has the digital format of the statistical publications on national level, dated since 1881. It was a great challenge to work for the realization of the Component "Development of the Library and Dissemination" as a part of Multiannual National PHARE Program 2004 -2006. The digital library of the BNSI was created with the financial support of the European Union. At the time of the project's realization, a Library Internet portal, electronic catalogue and digital data base of more than 422,680 pages were built up. The implemented integrated information searching library system gives an opportunity for automated service with statistical information. With its new vision as information channel for dissemination of statistical data, the Electronic Library of the National Statistical Institute provides data users with close and on-line access to digital information resources.

Keywords: Digitization; Electronic library; Bulgarian National Statistical Institute

РЕЗЮМЕ

Библиотеката на НСИ е създадена в края на XIX век със Закон за Дирекция на статистиката на българското Княжество (10 декември 1897 г.). Библиотеката притежава уникален фонд от статистически и икономически публикации на националната статистика от създаването й до наши дни, както и на международни организации и статистически служби в чужбина. Днес фондът й наброява повече от 35 000 библиотечни единици. Дейността на библиотеката е неразделна част от информационното обслужване на НСИ. Библиотеката издава информационен бюлетин за новопостъпилите статистически издания. Обслужва над 7 000 потребители годишно от страната и чужбина Дейността й е неразделна част от разпространението на статистическа информация. Библиотеката поддържа традиционно международен и национален книгообмен с повече от 90 международни организации и статистически служби в чужбина. Информационните и комуникационните технологии имат голямо значение за развитието на библиотеките и превръщането им в посланици на информационното общество. В отговор на изискванията на Лисабонската стратегия за изграждане на информационно общество, библиотеката на НСИ осъществи амбициозни дейности по изграждане на дигитални бази данни. За нас бе истинско предизвикателство да работим по компонент „Развитие на библиотеката и разпространение на статистическа информация" – част от Многогодишна Национална Програма ФАР 2004-2006. Дигиталната библиотека на НСИ е създадена с финансовата подкрепа на Европейския съюз. В резултат на осъществяването на проекта бяха изградени библиотечен Интернет портал, електронен каталог и дигитални бази данни (422 680 стр.). Към настоящия момент електронната библиотека на НСИ притежава националните статистически издания в дигитален формат от 1881 г. до наши дни. В библиотеката функционира Интегрирана информационно-търсеща библиотечна система, която дава възможност за автоматизирано обслужване на потребителите със статистическа информация. С новата си визия на информационен канал за разпространение на статистическа информация, електронната библиотека на НСИ дава възможност за близък и отдалечен достъп до дигиталните информационни ресурси.

Ключови думи: дигитализация; електронна библиотека; Национален статистически институт

ESTABLISHMENT AND DEVELOPMENT OF THE BULGARIAN STATISTICAL INSTITUTE

The establishment of a state institution to conduct statistical surveys in Bulgaria happened when the new state was under creation. Prince Alexander I Battenberg and the first Bulgarian governments did their best to organize the economic life, the army, education, transport infrastructure and the post, and establish the public administration. The Statistical and Organization Division was created at the Ministry of Finance on 25[th] June 1880 by virtue of the prince's decree. In 1897 a Law on the statistics Directorate was passed in the Principality of Bulgaria. The intent of the Statistics Directorate was to "collect complete and accurate data on the state of the country, to check up, process, and publish data in order to serve the science, legislation, administration and other purposes." The National Statistical Institute (NSI) was established on the basis of the Grand National Assembly. Local bodies of NSI are the Regional Statistical Offices (RSOs) located in the 28 regional towns of the country.

The development of the national statistical system is related both to quality changes occurring in the economy and society and to the preparation of the country for the future accession to the European structures. As a result of the negotiations with EU Bulgaria accepted

to apply the acquis communautaire in statistics in full without transition periods. It is worth mentioning that after 2007 when Bulgaria was integrated with EU, the international activity of NSI became more dynamic and the relations with other international organizations more extensive. Bulgarian statistics carries out close cooperation with the International Statistical Institute (ISI) and with EU structures, such as the European Commission and Eurostat. The Relations of NSI are promoted with UN structures and organizations, such as the statistical Commission at the Economic and Social Council, ILO, FAO, UNESCO, WHO, WTO, as well as with WB, IMF, OECD and others.

The historical review presents issues concerning the regulation of statistics within the institutional structure of the country and international statistical society. At present, the Bulgarian Statistical Institute is not only a mirror of processes and phenomena, but should strengthen its position as an important element of the information system of the democratic society and a full-member of the European statistical system.

The necessity of preservation of the statistical information is a fact up to now proving the historical role and contemporary mission of the Statistical Library. The library of Bulgarian statistics was set up at the end of the XIX century with the law on the Department of Statistics of Bulgarian Principality (December 10, 1897). The library has a unique position for the country fund of statistical and economic publications of the national and international statistics, since the time of its set-up. In the library exceptional editions of a true merit are kept, which are undoubtedly bibliographically unique editions owned only by that library. At present, the library fund is over 40,000 volumes. The activity of the library is an integral part of the BNSI information services. A bulletin of all newly arrived statistical editions is issued. More than 9,000 users of statistical information from Sofia, the country and the world are served per year, as well as bibliographic check-ups and specialized consultations are made daily. Main users of the statistical data are the Government and different Ministries and other public institutions, non-governmental organizations, universities, scientific and research institutions, private bodies and citizens from countryside and abroad. The Library's activity is in direct relation with the dissemination of statistical information. The Library maintains broad exchange of books and publications with more than 90 international institutions (international organizations and statistical offices), such as UN, EUROSTAT, UNIDO, UNCTAD, FAO, UNESCO, IMF, WTO, WHO and statistical offices from all over the world.

BSI'S ELECTRONIC LIBRARY

Information and communication technology has a unique importance for the development of libraries and their transformation into ambassadors of the Information society. In response to Lisbon's strategy requirements for the building up of the Information Society the BNSI library has realized ambitious activities concerning the creation of an Electronic Library. It was a great challenge to work for the accomplishment of the Component "Development of the library and dissemination" as a part of Multiannual National PHARE Programme 2004 -2006 - Europe Aid/121055/D/SV/BG. The main goals were to preserve the old and damaged library fund, to create digital database and to implement new IT technology for management and dissemination of information resources. The library was renovated and modernized with the financial support of the EU. According to the Contract for supply of equipment under the project "Sustainable Development of the National Statistical System," the library has been equipped with appropriate software, hardware and furniture. During the project was built up 422,000 digital pages according to the Technical Assistance Contract. The process of scanning was started with the oldest library collections such as: Census of the population 1881-2001; Demographic statistics 1889- 2005; Election statistics 1900-1947; Criminal statistics 1910-2003; Educational statistics 1892-2005; Agricultural statistics 1890-1995; Health statistics 1959-2005; Military statistics 1899-1915; Transport statistics 1895-1995; Foreign Trade Statistics 1880-2005, etc.

RESULTS: CREATION OF I-LIB

These sustainable results were achieved:

- Integrated information library system implemented

- Databases built up (electronic catalogues and digitalized library fund)

- Internet and Intranet library access

- Quick and effective automated services to users of statistical information

- Environment for preservation of the library fund established according to the international library standards

- Integrated and linked with other libraries in the country and abroad - Inter-library interchange of digital and paper publications

Integrated Library Information System (I-LIB) is an instrument for management and dissemination of bibliographic metadata and digital database. I-LIB is an application based on CDS ISIS developed by UNESCO to be freely implemented by libraries, but it has been adapted and developed by Bulgarian companies Primasoft and Softlib to fit the specific requirements of Bulgarian libraries. At the present I-LIB is used by over 100 libraries in Bulgaria, including several university libraries as well as special libraries such as the Library of the National Assembly of Bulgaria.

COMMON FACILITIES OF I-LIB

Common facilities include:

- Several data bases can be opened simultaneous to ensure easy search in the different data bases at the same time.

- Any kind of files (valid in Windows environment) – full text documents, images, video-clips, e-mail, web addresses etc. can be attached (by path and name) to library item description – without limits on the number of files.

- Barcode technology is used to rapid identification and control of library documents (items) and reader cards.

- A set of tools for archiving are available to save/restore data.

- The system works in local (Windows-98, 2000, 2003 XP) or network mode.

STRUCTURE OF I-LIB

The structure of the database is as follows:

- ISO 2709 standard is implemented in the data structure and is the default data exchange format. The record length is variable. The data structure allows using different search techniques to ensure relevant answers and minimize information noises.

- The system default exchange formats are ISO2709 and XML. Exchange in MARK21 and UNIMARK is also possible.

- The system was elaborated on a module principle and covers all activities and information needs in a library.

E-catalogue module

The main module of the library system is used to catalogue, books, continues editions and non-paper resources (microfilms, DVD, CD-ROM, audio and video tapes, cassettes, Internet electronic editions). The module provides two major functions: cataloging the library funds and information retrieval. All search tools of the system are provided with the module. The module provides possibility for paper outputs:

- Bulletins where bibliographic descriptions are sorted by predefined criteria having the possibility for several levels of sorting

- References

- Bibliographies by pre-defined criteria

The module supports technology by preparation of specialized bulletin "New Editions" sorted by pre-defined criteria and barcode technology for registering the volumes. Electronic files can be accessed from the description. By clicking on a hyperlink the users can examine the full text of a document or visit web document. There is no limit on number of attached files. The full text electronic format (PDF pages) was attached to every bibliographic description of the Bulgarian statistical publications.

Analytic description of articles module

The database structure corresponds to all national and international library and exchange standards including ISBD display and print format.

Documentation for registration of newly come library fund and flow of the library fund module

The module covers all activities concerning library document's flow. It provides automated registration and inventory of library units, distribution by type means of receiving, content, direction and language. The module performs automatically archiving of all necessary data.

International book exchange model

This model is already fully operational with information of more than 90 international organizations and statistical institutes included.

Internet and Intranet module (see http://www.nsi.bg and http://statlib.nsi.bg)

- The module gives an opportunity to present and disseminate the bibliographic and documental data bases. The Internet /Intranet module allows presentation of on-line catalogue, card –indexes and other document data bases without migration or conversation of data. The module maintains: Cyrillic and Roman alphabets for visualization, searching and printing of records.

- Interface in Bulgarian and English.

- Simultaneous access to several data bases – with one query the user can see the result from different data bases. The user only marks the desired bases from a list. This module provides the following searching facilities.

- Simple search – by word or phrase in all fields or in specified field (for example Author, Title, Year etc.).

- Browse search – the user can browse through database dictionary and view the search terms in alphabetical order. The terms in all fields may be listed or the user limits the field of interest.

- Advanced search – Logical operators AND, OR, NOT can be used to build more complex search strings. All search facilities are available – masked words, dictionary terms, previous searches in all fields or in chosen field.

- Guided search – in a search form the user can choose three fields and appropriate Boolean operators to form the search string. The bibliographic descriptions are linked to external content (text, image, audio) allowing presentation of the content via Internet. Visualization, print out and saving of content is possible. A selection of search results can be printed directly to printer or file. The display formats correspond to Bulgarian and international library formats, including ISBD. Help information is online in Bulgarian and English.

- Contextual Search – provides the ability to initiate a new search directly from the results screen by double-clicking on predefined context sensitive items (like Author, Keywords etc). This allows searching for new items related to the results on the screen (all books by the same author, all books by the same publisher etc).

The Internet portal of the library allows the users to obtain information by on-line catalog and digital database. The web interface provides easy tools to create, edit and update web contents and customize the web environment. New text content can be added and edited with text editors.

The portal provides a variety of ways for accessing statistical data and tools for searching and finding them on the Internet. At present Internet users have the possibility to make bibliographic check-up in the on-line catalogue of the library, as well as reading the full text of 95 publications of the Statistical Yearbook of Bulgaria since 1909. PDF files were converted in PDF pages which were attached to i-Lib Navigator. The Navigator is a tool for presentation of and navigation in structured digital content. The digital document can be separated in different parts like, content, index, pages, separate volumes, separate book chapters, separate newspaper issues etc. The Internet user can navigate through the different parts (pages, chapters, volumes, issues) and visualize only selected parts of the entire content. This is especially useful to protect the entire content from download or to present quickly even via slow internet connections only the desired part of the content. Creation of the e-content is a great challenge for us but the management of digital resources is the main goal for the library staff of BNSI. Our efforts are pointed to convert digital data from PDF files to PDF pages and customize digital resources.

CONCLUSION

The electronic library gives an opportunity to the full-text database via Intranet. Users of statistical information have open access to digital database in Central Office of BNSI (in the reading room of the library). Digital information is provided also for users from countryside in the 28 Regional Statistical Offices (RSOs) located in the 28 regional towns of the Bulgaria.

At present the library possesses a database with 500,000 digital pages of Bulgarian national statistics since 1881. Collections of rare and true merit editions (about 2,300 publications) were scanned and preserved for the future generations. The library has disposal of integral technology for digitalization of content and attachment of the full text files to the on-line catalogue. The digital information needs a huge amount of storage space. It is estimated that the space required will be in the range of tree terabytes. The library has sufficient storage space available to load the digitized books and publications to the server.

This is a very important condition for the process of digitalization to be carried on. The process of digitalization is carrying on with high speeding book scanner owned by the library. As a result of joint efforts of the BNSI librarian staff, the collection of "Statistical reference book" editions was scanned. The next step for the electronic library will be presentation of the collection via Internet.

Research and Innovation in the European Library:
The TELplus Project

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Изследване и иновации в Европейската библиотека:
Проектът TELplus

Георгия Ангелаки
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ABSTRACT

The paper presents the progress of the TELplus project, a primarily research and development project of The European Library which is the shared online service of the 48 National Libraries of the Council of Europe. The project is composed of several areas of work each of which aims at either significantly increasing access to digital content or at enhancing the usability of The European Library portal. The main work areas are: Optical Character Recognition (OCR) of scanned texts; full text search with the use of semantic web techniques; building a centrally managed infrastructure of distributed repositories with the use of the Open Archives Initiative-Protocol for Metadata Harvesting (OAI-PMH); setting up a metadata repository based on the Functional Requirements for Bibliographic Records (FRBR) concept model; building a services infrastructure and investigating user profiles for providing personalized services.

Keywords: The European Library; OCR, services; OAI-PMH; Semantic web; FRBR; Personalization; National libraries

РЕЗЮМЕ

Докладът представя напредъка на проекта TELplus, предимно изследователски и развоен проект на Европейската библиотека, която представлява споделената онлайн служба на 48 национални библиотеки на страните от Съвета на Европа. Проектът е съставен от няколко работни направления, всяка от които е насочена или към значително увеличаване на достъпа до дигитално съдържание или към разширяване на използваемостта портала на Европейската библиотека. Главните работни направления са: Оптическо разпознаване на символи (OCR) в сканирани текстове, пълнотекстово търсене с използване на технологиите на семантичната мрежа, изграждане на централно управлявана инфраструктура от разпределени репозиториуми с използване на Протокола за набиране на метаданни на Инициативата за свободен достъп (OAI-PMH), създаване на репозиториум за метаданни, основан на концептуалния модел Функционални изисквания към библиографските записи (FRBR), изграждане на инфраструктура за услуги и проучване на профилите на ползвателите с цел предоставяне на персонализирано обслужване.

Ключови думи: Европейска библиотека; OCR, услуги; OAI-PMH; семантична мрежа; FRBR; персонализиране; национални библиотеки

INTRODUCTION

The European Library is a service of the Conference of the European National Librarians (CENL, see Endnote 1). It was launched in 2005 to offer a common access point to the distributed collections of the 48 national libraries of the Council of Europe (see Endnote 2) and of the State of the Vatican City. It evolved from providing general information about the libraries (project Gabriel, see Endnote 3) to providing an integrated point of access to their online resources. In 2005 there were nine founding members (see Endnote 4) and at the beginning of 2009 there will be 46 national libraries who are full participants in The European Library providing online access to more than 330 collections.

The mission of The European Library is described as follows: *"The European Library exists to open up the universe of knowledge, information, and cultures of all Europe's national libraries."* With the integration of the remaining European national libraries, an important goal of The European Library's mission is reached. In the near future, therefore, the weight of The European Library strategy will lie on investing resources to improve the service through innovation. This will be achieved by improving the multilingual search and retrieval of results, providing more digital content and services to users that better fit their particular interests, and improving the overall search and browsing experience of the portal.

TELplus (see Endnote 5) is the project of CENL that was proposed by a consortium of 26 partners, national libraries, and research centers to form a pool of research and innovation to provide value-adding services and products for The European Library. It is coordinated by the national library of Estonia (see Endnote 6) and Eremo s.r.l. (see Endnote 7) and it is partly funded by the European Commission Programme eContentplus (see Endnote 8). The project started in October 2007 and will run for 27 months.

The project provides a major research and innovation hub for The European Library. Each work package aims at either significantly raising the amount of digital content in The European Library, or improving access to content and the overall usability of the service. The current paper presents the developments achieved within the project's main technical work packages during its first year and the expected impact on the service.

The structure of the paper follows the structure of the project's Work Packages (WP1-WP5, see Endnote 9). Each of the following sections describes a work package in progress in the project and its effects on The European Library. The first work package concerns using OCR (Optical Character Recognition, see Endnote 10) to digitize content from 14 national libraries and the related pilot of The European Library that initiates a long-term full text indexing strategy. The second work package describes a system supporting a robust and scalable harvesting infrastructure made up of centrally managed distributed OAI-PMH (Open Archives Initiative-Protocol for Metadata Harvesting, see Endnote 11) repositories. Research described in the third work package involves a prototype for a semantic search engine that meets the need for full text query and visualization, research on techniques to apply semi-automatic subject heading alignments, and the initial investigations for setting up an FRBR (Functional Requirements for Bibliographic Records, see Endnote 12) repository with the harvested metadata records from the national libraries. There are three sub-areas of work in this work package which are connected with the overall goal of improving access to content putting a special emphasis on multilingual and semantic functionalities. Work Package 4 is dedicated to service infrastructure and the registry being built which is based on the concept of standardizing service descriptions. The final work package described talks about the research conducted on user profiles for the provision of personalized services.

WORK PACKAGE 1: OCR-ING PREVIOUSLY DIGITIZED MATERIAL

While digitization is not one of the core activities of The European Library itself, existing user satisfaction studies indicate that the success of the service is tightly connected with the supply of digital content to users. The first work package is important for the great amount of digital content it helps the national libraries to produce and bring to The European Library, and for raising awareness about best practices in OCRing - a very costly enterprise for the national libraries and one that is still largely undocumented.

In TELplus Work Package 1, 14 national libraries (see Endnote 13) use OCR to turn into searchable full text a total of more than 20 million pages that previously existed only as digital images. The produced full text will be used for detailed searching in the partners' digital libraries and the content will also be accessible via The European Library.

The first survey of the work package revealed the kind of material that was going to be OCRed in the context of the project. More than 50% of the content is newspapers and the rest is mostly books, journals, and pamphlets. The national library of Slovenia contributes the oldest book, which dates back from 1500, while the youngest Icelandic newspaper is only 6 years old. The majority of the material comes from the period between the early 19th to the mid 20th century. The geographical coverage of the content extends from the Mediterranean to Greenland and to Latin America. There are documents in more than 30 languages, including Faroese, Greenlandic, Yiddish, and Latin and in some cases there is content published in more than one language in the same document. All these raise challenges for the OCRing tools which are not yet developed enough to support minor languages, let alone historical fonts in these languages.

The survey also revealed that national libraries have very different experiences with OCRing: some partners had well established and in some cases mass digitization routines in place while others were starting to OCR for the first time. At a meeting held at the Bibliothèque Nationale de France (see Endnote 14) in January 2008 national library representatives shared experiences regarding content selection criteria for digitization and OCRing, quality of OCRing and how to measure it, the problems of in-house OCRing, tendering procedures and prices, software tools and output formats suitable for various uses. This information sharing exercise proved valuable for partners as such information is scarce and there is hardly any literature on best practices in the topic in English (see Endnote 15). The continuation of the work package helps raise awareness about different practices, helps address the gaps in language aids and software tools for minority languages and historical fonts (see Endnote 16), and also helps promote the adoption of standards in the area that will ensure quality results for long term access to digitized content.

At the same time, The European Library conducted a pilot between March and August 2008 for retrieving and indexing some of the partners' sample OCRed materials in order to explore the issues that arise regarding provision of full text search functionality through The European Library. Though born digital material is not expected to raise serious difficulties for indexing, quality of OCRed material is definitely a concern for The European Library and future user studies will need to address the expectations and the tolerance of users in regards to errors in order to shape an appropriate indexing approach. With respect to building services on top of full text, initial efforts to map this issue will be presented in Work Package 3 that is in particular investigating improving full text search and browsing.

In the near future The European Library will work towards setting up a standardized, robust, and scalable process for retrieving and indexing mass digitized and born-digital content from national library partners. The pilot showed that the different OCRing routines of the partners result in a variety of output formats and accessibility complications that cannot, in the long term, be addressed on an individual library-by-library basis. Building on the benefits of a standardized process of providing access to the collections' metadata so far, The European Library will seek to work with the national library partners on an agreement regarding the stand-

ardization of the process of retrieving full-text and on the selection of a limited number of full-text formats that best fit the quality of, and long-term access to, full-text digital content.

WORK PACKAGE 2: IMPROVING THE USABILITY OF THE EUROPEAN LIBRARY THROUGH OAI-PMH COMPLIANCE

The second work package is aimed at supporting the efforts of The European Library to create a central repository of harvested metadata from the national libraries. This is crucial for providing a fast search and also allows for a number of valuable functionalities and services to be built on top. The work package helps to significantly lower the barrier for national libraries to adopt the OAI-PMH protocol for exposing their metadata and to create a centrally managed infrastructure of distributed metadata repositories specifically adapted to the requirements of The European Library.

The European Library currently uses SRU (see Endnote 17) to query both SRU and Z39.50 (see Endnote 18) remote targets and a central repository of indexed metadata from harvested partners' OAI-PMH repositories (see Endnote 19). This federated searching imposes a number of limitations in the search and retrieval of results such as slow response time and a restriction on manipulation that would return more relevant results to the users (e.g. ranking).

The national libraries are gradually realizing the importance of moving away from Z39.50 and of (partially) exposing their metadata to various search engines and to The European Library. Metadata harvesting libraries means The European Library can create a central pool of valuable multilingual information that can be manipulated in ways which are expected to provide true added value functionality to users: data can be semantically enriched with thesauri, authority files and other language resources; translation efforts are facilitated; de-duplication of results is enabled, as well as clustering of results; and the possibility to implement FRBR for searching and browsing the records. The European Library aggregated metadata content can be exposed better on web2.0 (see Endnote 20) applications such as the mini search widget developed by The European Library (see Endnote 21) which can be placed in other websites.

In this context, the Instituto Superior Técnico (IST, see Endnote 22) in Lisbon, Portugal, is setting up an integrated harvesting infrastructure for The European Library made of two components: one that is client-based intended for the national libraries and one that is installed centrally in The European Library. The system is called REPOX (see Endnote 23) and is designed to meet the particular requirements of The European Library. The local module is a stand-alone java server that includes an easy to use interface for managing the data and the functions associated with the repository. The module is further designed to do character set conversion and to map the partners' metadata formats to The European Library's common metadata format, the TEL Application Profile (see Endnote 24).

For The European Library the central harvesting component will be designed to meet the specific needs of the partner libraries' repositories. The system will make it possible to schedule harvesting according to the update rhythm of a particular collection, and also enable notifications to be sent in case a server is down. In case of this, the system will resume harvesting when the server is running again. Work on mappings and character set conversion will also be integrated in the central component. The work package is expected to harvest more than 30 million records before the end of the project and make them available to The European Library.

Another important expected development is the ability to harvest Z39.50-enabled servers. This will make it possible to work around the restrictions imposed by some library sys-

tems that restrict control over the metadata and prohibit its export out of the local databases into OAI-PMH repositories.

WORK PACKAGE 3: IMPROVING ACCESSIBILITY

Work Package 3 is a multifaceted work package combining innovative research for The European Library in various areas of work under the common goal of improving access to content and enhancing its semantic and multilingual potential.

Task 1: Improving Access to Full Text

Going a step further than Work Package 1, which creates mass full text content for The European Library, this task aims at investigating the user requirements with respect to searching and browsing full-text and to create a small scale prototype of a search engine specifically adapted to the particularities of OCRed full text as described in Work Package 1 and able to provide enhanced semantic and multilingual functionalities to the users.

The team from the French national library, who are leading the work package, first investigated the international and French market of commercial and open source tools and developed criteria to evaluate their semantic and multilingual functionalities. Some of the functionalities (see Endnote 25) that were analyzed included the translation of query and result lists, disambiguation of requests, text analysis, autosuggestions, and references extraction.

Subsequently, focus groups brought up the priorities for the prototype development and fed into the public call for tenders for the search engine that was published in October 2008. The prototype will be developed from November 2008 to June 2009 and will focus on extraction of names and places and on query disambiguation or disambiguation of queries.

An interesting observation that arose from the focus groups was that although users found translation functions very interesting and liked the possibility to perform a query in their native language and retrieve translated results from all other possible languages, they were suspicious to what extent this was possible. Additional user tests and investigations are necessary to shed further light on this area in order to better understand user expectations and what is possible with existing translation tools.

Task 2: Improving Multilingual Access by Investigating Automatic Subject Heading Alignments

Alignments of subject headings and controlled vocabularies can be used to improve multilingual access to content. However, manual mappings are very time and labor intensive (see Endnote 26). The current task investigates the feasibility of applying semi-automatic alignment techniques for mapping between vocabularies. The research is being conducted by the STITCH team (see Endnote 27) that is investigating semantic interoperability of controlled vocabularies in the cultural heritage sector and ontology mappings to enhance the search results. STITCH is participating in the formulation of the SKOS model (see Endnote 28) for the formal representation of such vocabularies in the context of the Semantic Web Activity of the World Wide Web Consortium (see Endnote 29).

So far, the Rameau (see Endnote 30) subject headings from the French national library, SWD (see Endnote 31) from the German national library & LCSH (see Endnote 32) subject headings from the Library of Congress were converted into SKOS, the standard semantic web representation language for the purpose of the investigations. This development facilitates their use in various contexts such as the prototype of the semantic search engine in the context of Task 1 described previously.

Task 3: Setting up a FRBR Repository for The European Library

Using the harvested bibliographic records from partner libraries, the next task aims at improving search and browsing of content through the implementation of Functional Requirements for Bibliographic Records (FRBR). The FRBR conceptual model uses as its basis the four user tasks: "find", "identify", "select", and "obtain", and tries to combine information from records that refer to different translations, editions or different media type variations of the same work. This user-centered perspective on cataloguing can have a tremendous impact on usability as it can significantly narrow down search results by clustering similar records for the user. The vast amount of multilingual metadata records that come from the various national libraries is very challenging in this respect, especially because there is a lot of duplication of information in the incoming records. FRBR is expected also to be beneficial for the libraries in terms of sharing information and improving existing catalogues.

However, implementation is not easy and there are not many tools supporting it - consequently the model is not widely adopted yet. The first objective of the project, therefore, was to review existing implementation instances (see Endnote 33) and to invite experts in the field to consult with The European Library and to advise on potential implementation scenarios.

The international FRBR workshop (see Endnote 34) that was held in the national library of Portugal in October laid the foundations for a prototype experimentation starting with some "super works" such as the Bible or books by Nobel Prize winners, records of which are likely to exist in various libraries and in many languages. The REPOX system that is being built within Work Package 2 will be used, wherever possible, to harvest MARC records from national libraries as these records are much more suitable for FRBRisation than Dublin Core. The international group of experts from libraries and the commercial sector formed at the meeting agreed to follow up on the project. A prototype FRBR repository is expected to be ready in June 2009.

WORK PACKAGE 4: INTEGRATING SERVICES WITH THE EUROPEAN LIBRARY PORTAL

Work Package 4 aims at creating a modular service infrastructure for The European Library and a service registry that would be based on standardized service descriptions. The added-value of the standardization of service descriptions is that services would not need to be hard coded in the portal and the user should be able to easily invoke and use functionality that exists on the web, irrespective of where it resides, on the condition that legal and access restrictions are overcome. Seemingly, creating context-sensitive services means that specific fields in the result of a query could trigger new functions for the user relevant to his query.

Additionally, in the context of the project a number of new services are being developed by the partners and some existing ones are being analyzed as use cases in order to build the services description registry and data-model. The new services to be built are: image, video and text annotation tools; a tool for displaying old maps on Google maps (see Endnote 35) using a timeline; thesauri and name authority services; image zoom tool; an asynchronous proxy service; and a text analyzer tool.

A test version of The European Library portal has been used to investigate the conditions that need to apply in order to trigger the invoking of the services, to tested the services and to instruct the portal how to use them. This has given significant insight for the service model. An article about the first version of the service model schema will be published at the January/ February issue of D-Lib Magazine (see Endnote 36) by Theo van Veen from the national library of the Netherlands who is leading the work package.

Over the coming year the service model and the services under development are expected to be finalized, and potential integration in The European Library portal will be planned. The research realized in the service descriptions standardization area might have a great impact not only for The European Library but for any service-providing site. A thorough analysis of the legal aspects that might arise from the use of services from third parties is outside the scope of the current project. However, should the service description model gain broad acknowledgement and uptake the legal framework surrounding such developments will need to be addressed as well in due time.

WORK PACKAGE 5: USER PERSONALIZATION SERVICES – LOG FILE ANALYSIS AND USE OF ANNOTATIONS

Research realized in the last technical work package of the project on the profiles, needs and usage habits of The European Library users is of primary importance for The European Library. The depth of this analysis can provide a rich source of information that can feed into improving the overall usability of the portal, creating particular services for specific user groups, offering true personalized search and retrieval according to a user's individual profile, and even informing the overall policy of The European Library and the national libraries in areas of strategic importance such as multilinguality, collections' development policy and digitization.

The research team led by the University of Padua (see Endnote 37) aims at analyzing the various sources of information from and about The European Library's users in order to build a structured framework for the systematic recording and analysis of the data. There are various sources of information about the users of The European Library, both implicit and explicit. The main ones are log files (see Endnote 38), registered users' data and the results of user studies.

HTTP server log files are a source of implicit information about the traffic to the portal and about some general characteristics of the users such as their geographic location (based on their IP address), the site they last visited, and the keywords they used to search in The European Library. Additionally, The European Library has built a custom logging system to record in depth the activities related to a search performed by a user - such as the language he uses for the interface, the collections he selects to view, the particular records he chooses and the additional services he might use (i.e. the "see online" function to view the digital object or the "print" option). These sources of information capture the intuitive search practices of users.

Additionally, there is personal information that the users agree to provide themselves upon registering (see Endnote 39) with The European Library such as profession, organization, and areas of interest. The research team of the work package is analyzing registered users' data in combination with their recorded clickstream (see Endnote 40) history with the aim of providing true personalized search and services according to the needs of this particular user.

Furthermore, analysis of the search habits of a targeted national, professional or age group can inform the design of functionalities to meet the needs of these particular user groups. Existing statistical data show, for example, that there is a connection between the country of provenance of users, the language used for the interface and the selection of particular collections. Thus, the data justifies the display of the user interface in French if the user has a French IP address as well as to show first results from collections that are likely to have entries in French such as collections from France, Belgium, Luxembourg or Switzerland. This doesn't apply only to users coming from a European country. Users coming from Lebanon for example also switch to the French interface as soon as they enter the portal (since Ara-

bic is not offered yet as an option) and we can assume that they would also wish to first view records in French.

User studies are finally needed to confirm the informed decisions taken based on the analysis of the user logs over the design of particular services or functionalities of the portal. The European Library in the past has conducted two broad user studies that have further helped improve the usability of the portal.

In the framework of the TELplus project more focused user tests aim at investigating user requirements for the particular services to be developed in the project and it is intended that the expertise gathered becomes part of standard practice for developing new services in the future. The national library of the Netherlands, the national library of France and the national library of Italy in Florence, which are partners in the work package, are contributing expertise in user studies and will set up focus groups to participate in the user tests. The first user tests will take place in spring 2009 and will investigate user feedback with respect to using image, text and video annotation tools.

The second year of the project will largely concentrate on continuing research and development in the various areas of work described, significantly increasing the digital content provided to the user and the usability of the portal. Major benefits include 20 million OCRed pages being made available for search by the partners through the European Library, and an increase in the number of centrally harvested metadata by at least 30 million records. The European Library will switch almost entirely from the inadequate distributed federated search to searching a centrally harvested pool of metadata from the partner libraries. This will enhance speed of search and retrieval of results and will make it possible to offer value-adding functionalities to users such as ranking and clustering of results. Semantic enhancement of records will be made possible on the centrally aggregated records with the use of the SKOSified subject headings from Work Package 3 and authority files from Work Package 4. Furthermore, The European Library will be able to showcase and assess the results of using the FRBR paradigm to search and browse The European Library records.

The European Library will have made a significant contribution in the area of standardization of service descriptions, the impact of which is too early to estimate. Nevertheless, The European Library portal will be able to profit from a more service- oriented modular architecture. A number of important services will be developed, improving the overall usability and the search experience of the portal. These include annotation tools, as well as geolocation-relevant services and tools for searching full text (e.g. zoom in and highlight of terms service). Regarding the latter, The European Library will have investigated via a prototype a new semantic search engine specifically adapted to the particularities of the OCRed full-text from the partner libraries. Finally, a structured framework for analyzing logged information from users' actions on the portal will have been developed which, in conjunction with results from user studies, will provide a significant insight into what users are looking for, where they are stumbling and leaving the site and how satisfied they are with the offered functionalities. These in turn will dictate user requirements for the implementation of the services under investigation in the project and will feed into significant improvements in the portal and into the provision of personalized services to the users.

In conclusion it should be mentioned that the important research and development being realized in the context of the TELplus project such as the REPOX system, along with the service infrastructure and the mass digitization of content, will not only help innovate The European Library portal but will also feed into the development of a ground-breaking new service- Europeana (see Endnote 41). Europeana is the cross-domain pan-European service offering access to the digital holdings of museums, archives, audiovisual archives, and libraries. The prototype service is currently being developed and will be launched at the Council of Ministers of Culture in Brussels in November 2008. The European Library is not only one of

the most important library content aggregators in Europe, but is also the cornerstone of this major initiative that has been raised by the European Commission (see Endnote 42) and has been warmly embraced by all the member states for promoting and exploiting the rich European cultural heritage.

ENDNOTES

1. CENL website: http://www.cenl.org

2. Council of Europe website: http://www.coe.int

3. Project Gabriel archive website: http://www.theeuropeanlibrary.org/portal/organisation/cooperation/archive_en.html#gabriel

4. http://www.theeuropeanlibrary.org/portal/organisation/cooperation/archive_en.html#tel

5. TELplus project website: http://www.theeuropeanlibrary.org/telplus/index.php

6. National Library of Estonia: http://www.nlib.ee/?set_lang_id=2

7. EREMO s.r.l.: http://www.eremo.net/en/home.php

8. eContentplus Programme: http://ec.europa.eu/information_society/activities/econtentplus/index_en.htm

9. The TELplus workplan: http://www.theeuropeanlibrary.org/telplus/workplan.php. The other work packages that are not presented in the current paper involve the integration of the collections of the national libraries of Bulgaria and Romania (WP6), Dissemination (WP7) and Management and Coordination (WP8).

10. About Optical Character Recognition: http://en.wikipedia.org/wiki/Optical_character_recognition

11. The Open Archives Initiative Protocol for Metadata Harvesting: http://www.openarchives.org/pmh/

12. The Functional Requirements for Bibliographic Records model produced by IFLA: http://www.ifla.org/VII/s13/frbr/frbr.pdf

13. Partners in the WP1 are: Austrian National Library (ONB), National Library of the Czech Republic (NLP), National Library of Estonia (RR), French National Library (BnF), National Széchényi Library of Hungary (OSZK), National and University Library of Iceland (LBS-HBS), National Library of Latvia (LNB), Martynas Mazvydas National Library of Lithuania (LNM), Norwegian National Library (NLN), National Library of Poland (BN), Slovak National Library (SNK), National and University Library of Slovenia (NUK), National Library of Spain (BNE), National Library of Sweden (NLS)

14. Bibliothèque Nationale de France: http://www.bnf.fr/

15. Part of the D1.2: "A survey of existing OCR practices and recommendations for more efficient work" will be publicly published on the TELplus website in November 2008 and this constitutes a significant contribution to relevant literature on the topic.

16. The information gathered through the project will also be exploited in the context of another European Project- IMPACT (http://www.impact-project.eu/) that is doing more in-depth research into innovating OCRing technology and tools.

17. SRU: http://www.loc.gov/standards/sru/

18. Z39.50: http://www.loc.gov/z3950/agency/

19. The European Library architecture is explained in The European Library Handbook: http://www.theeuropeanlibrary.org/handbook/handbook.php?handbook_menu=0-4-1&handbook_menu_pg=handbook/Accessing_my_collections/european_library_portal.html

20. About the web 2.0: http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

21. The European Library Mini Search Box: http://www.theeuropeanlibrary.org/portal/organisation/services/minisearchbox_en.html

22. Instituto Superior Technico: http://www.ist.utl.pt/

23. The webpage of REPOX is: http://repox.ist.utl.pt/

24. The European Library Application Profile for objects: http://www.theeuropeanlibrary.org/handbook/Metadata/tel_ap.html

25. The mock-up that was produced showcasing the multilingual and semantic functionalities under investigation for the user tests can be explored on this page: http://maquette.bnf.fr/labs/telplusonline/

26. The European Library in the framework of EDLproject developed a prototype integrating the results of the MACS project: https://macs.vub.ac.be/pub/ enabling access to bibliographic data from the national libraries of France, Germany, Switzerland and Great Britain using aligned English, French and German subject headings. The results are included in the following report: http://www.edlproject.eu/downloads/D2%201final.pdf.

27. http://www.cs.vu.nl/STITCH

28. http://www.w3.org/2004/02/skos/

29. http://www.w3.org/2001/sw/

30. The Rameau Subject Heading Language: http://www.w3.org/2006/07/SWD/wiki/EucRameau

31. SWD Subject Headings: http://www.d-nb.de/eng/standardisierung/normdateien/swd.htm

32. Library of Congress Subject Headings: http://www.loc.gov/cds/lcsh.html#lcsh20

33. The TELplus report on the review of existing FRBR examples: D3.6 Report on FRBR experiments (29 July 2008) will be made publicly available on the TELplus website in November 2008.

34. The agenda and the presentations of the workshop are available on the website of the national library of Portugal: http://www.bn.pt/workshop_telplus/index.html

35. http://maps.google.com/

36. http://www.dlib.org/

37. Department of Information Engineering, University of Padova, Italy: http://www.dei.unipd.it/wdyn/?IDsezione=1

38. About HTTP server logs: http://en.wikipedia.org/wiki/Server_log

39. The European Library registration page: https://search.theeuropeanlibrary.org/portal/en/user_registration.html

40. http://en.wikipedia.org/wiki/Clickstream

41. http://www.europeana.eu/

42. http://ec.europa.eu/information_society/activities/digital_libraries/europeana/index_en.htm

Building a Virtual European Library of Manuscripts: The ENRICH Project

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Изграждане на европейска библиотека на ръкописи: Проектът ENRICH

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ABSTRACT

Through 2006, our activities concerning aggregation of content from various institutions into our Manuscriptorium Digital Library had grown so much that we decided to answer to the European eContentPlus Call for Proposals and applied with a project called ENRICH. It was accepted by the European Commission for funding and it started in December 2007. Its aim is to aggregate digital content concerning manuscripts and rare printed documents from important collection holders. The project has 18 direct partners from many European countries and it was and it is also supported by a growing number of other institutions that are becoming the associated partners. Before the beginning of the project, the Manuscriptorium Digital Library already provided access to data from 46 various cultural institutions from which 11 were from outside of the Czech Republic. This represented ca. 1.1 million pages and furthermore also a lot of descriptive records without image representations. By the end of the project, the number of accessible pages should be more than 5 million. The project builds on seamless access to various data resources in remote repositories through the Manuscriptorium interface. Due to a great variety of approaches in Europe and even outside of Europe, the task is not easy, because they be should be bridged within the Manuscriptorium so that the user will not need to take care from how many remote places the data is incoming during his work session. The new Manuscriptorium partners range from highly developed digital libraries that communicate automatically through the OAI protocol up to the partners that start digitization of manuscripts or have no presentation tools for their data. All of them are supported and so are supported the user needs up to virtual creation of new documents composed from any analytical digital objects identified in the digital library database. The paper gives a more detailed description of the project goals and work.

Keywords: Digital library; Digitized manuscripts; TEI; eContentPlus

РЕЗЮМЕ

През 2006 г. нашата дейност по агрегиране на съдържание от различни институции в дигиталната библиотека Manuscriptorium се разрасна дотолкова, че решихме да се възползваме от призива на европейската програма eContentPlus за предложения и кандидатствахме с проект, наречен ENRICH. Той беше приет за финансиране от Европейската комисия и започна през декември 2007 г. Целта му е да агрегира дигитално съдържание, състоящо се от ръкописи и редки печатни документи от притежатели на значими колекции. В проекта участват пряко 18 партньора от много европейски страни. Той беше подкрепен и продължава да се подкрепя от все повече други институции, които стават асоциирани партньори. Преди началото на проекта дигиталната библиотека Manuscriptorium вече предоставяше достъп до данните от 46 различни институции, 11 от които извън границите на Чешката република. Те представляваха около 1.1 милиона страници и голям брой записи на описания, без представяне на изображения. Към края на проекта броят на достъпните страници трябва да надхвърли 5 милиона. Проектът е изграден върху непрекъснат достъп до различни ресурси на данни в отдалечени репозиториуми чрез интерфейса на Manuscriptorium. Голямото разнообразие на подходи в Европа и дори извън Европа затруднява задачата, тъй като в рамките на Manuscriptorium те трябва да се преодолеят, за да не се грижи потребителят от колко отдалечени места ползва данни по време на една работна сесия. Между новите партньори на Manuscriptorium има развити дигитални библиотеки, които комуникират автоматично чрез протокола на OAI , но има и такива, които са в началото на дигитализирането на ръкописи или не разполагат с инструменти за представяне на данните си. Всички те са поддържани и по този начин се подкрепят и потребностите на ползвателите за виртуално създаване на нови документи, съставени от отделните дигитални обекти, идентифицирани в базата данни на дигиталната библиотека. Докладът предлага по-подробно описание на целите на проекта и работата по него.

Ключови думи: *дигитална библиотека; дигитализирани ръкописи; TEI; eContentPlus*

INTRODUCTION

The digitization of manuscripts and rare old printed books started to develop step by step in 1992 thanks to cooperation of the National Library of the Czech Republic with AiP Beroun Ltd., from several discrete pilot projects for UNESCO (1992-1999), first digitization centre (1995-1996), preparation of UNESCO Memory of the World recommendations and their adoption (1999), declaration of a national ministerial grant program (2002) until the launch of the Manuscriptorium Digital Library (2003). This development can also be observed from the point of view of the evolution of the Manuscriptorium document format and from that of participation of various institutions in the project.

The Manuscriptorium growth is based on inclusion of digital content from various types of libraries or institutions nationally and internationally. The National Library of the Czech Republic attracted several other research libraries, many museums and archives, castle libraries, monastery libraries, various other institutions and even private collections. In the Czech Republic, this was possible thanks to the national grant program for digitization of manuscripts, but Manuscriptorium became interesting also for many foreign institutions, because it offers the virtual space for joining dispersed collections and documents. This fact led to application for an eContentplus project in 2006 submitted by a consortium of eighteen institutions from several European countries. The project was approved for funding and it started under the name of ENRICH in December 2007. Its aim is to aggregate similar content from heterogeneous digital libraries and newly founded repositories all around Europe under the

Manuscriptorium interface. The integration is seamless and makes the external content homogeneous so it can be a great service for researchers and any interested users.

The underlying principle is based on the concept of the compound digital document, which distinguishes clearly between data (digital images, full texts, and other binary representations) and metadata, and provides a structural map with links to component digital objects. The principle enables the composition of the document represented in the digital library as a result of online interaction of the central database with remote data repositories.

HOW TO AGREE ON METADATA

For the cooperation and communication of various approaches it is necessary to create a policy for handling various descriptive formats and their connection to binary data in repositories. In 1996, when the day-to-day digitization of manuscripts started in the National Library of the Czech Republic, the selection of such a container was found with the SGML platform. As in those days no XML was available, the digital document was described and structured on the SGML platform where a kind of an enlarged HTML DTD was created. Thus the format was able to provide enough flexibility for descriptions of contents, referencing to binary data, indexing of relevant descriptive elements, and formatting for display. As the Internet browser seemed to be an important viewing tool, there was no other way than to accept HTML prescriptive elements and bind them with concrete descriptive elements defined in the so-called DOBM DTD and related definition tools. There were two versions of such an approach used in practical work until a new document format was defined just after the year 2000.

The new document format drew from two important events:

• Creation of a new European format (issued from an EU project) for electronic description of manuscripts based on the TEI platform;

• Creation of the XML subset of SGML and its wide penetration including the web environment.

The new TEI standard for description of manuscripts was named MASTER and it was finalized as a DTD in 2001. The National Library of the Czech Republic – which was one of the MASTER project partners – decided to incorporate the format for the descriptive part of the new document format, while the structuring continued to be done in a similar way as before. The third large subset of metadata elements was plugged in for technical description of images, and it reflected the findings and recommendations of the U.S. Data Dictionary for Still Digital Images and the DIG-35 DTD.

The apparition of MASTER underlined the substantial splitting of user communities as to approaches to electronic cataloguing and description of manuscripts. It can be said that it represents a research approach face to the standard (usually MARC-based) library identification descriptions and various rudimentary non-standardized approaches.

This splitting marked also the scene when the ENRICH project began and from the beginning everybody felt that the aggregator, i.e. Manuscriptorium Digital Library, would have to find a solution. In fact, there were two logical approaches for the solution:

• A choice of a main format into which all the aggregated metadata would be converted;

• A solution based on the emerging METS format in which the original descriptions would continue to exist in their original form provided that for each of them an ad-hoc transformation routine would be written both for indexing and display. This would bridge the problems issued from specific properties of both MARC and MASTER descriptions.

A typical deficiency of MASTER face to MARC is lack of some granularity of cataloguing metadata, e.g. for names of physical persons, while a typical deficiency of MARC consists in absence of a large number of descriptive elements beyond a rather simple (from the point of view of TEI) cataloguing record. Furthermore, the TEI approach is much closer to structural mapping of digital documents, because any SGML application is very naturally flexible in this approach, while the document structures in MARC are rather limited. With some exceptions, this means in practice that we may expect problems coming from digital libraries born on pure library information systems, while TEI-based digital libraries may have more open approaches.

On the other side, there are also many institutions that have digitized or would like to digitize without being able to go on-line with their digital output. Such institutions usually have library information systems, but they do not have digital library applications. These institutions should be supported already in the phase of digitization with editing tools that would enable them to prepare valid Manuscriptorium compatible metadata with a second possible MARC output that would feed their electronic catalogues.

Having all this in mind, it was decided to make a large and thorough analysis and comparison of MARC21 and MASTER solutions so that the new editing tools might contain enough granularities to be able to produce both kinds of output. Simultaneously, the ENRICH project contained the tasks leading to implementation of a new TEI description and its possible METS containerization.

In the beginning the new TEI description was meant to enable the transfer from the version TEI P4 onto TEI P5 and it had to remain in the research community, without wishing to solve the bridging with the typical library approaches. The last developments, however, show a great success consisting in incorporation of both new TEI and MARC requirements into the new TEI P5 schema for description of manuscripts. The new schema also provides the needed flexibility for building document structures so that the METS containerization is left only for administrative, technical, and parallel data (e.g., source descriptions in another format than TEI P5 before conversion into it). In other words, this means that the internal Manuscriptorium format will be the new TEI P5 DTD/schema for description of manuscripts into which any incoming metadata will be converted. This will be also the format that will be indexed by the Manuscriptorium database and from which the necessary display transformations will be produced.

The analyses of the digital libraries of the ENRICH direct and associated partners have shown that the biggest problem in data aggregation from heterogeneous resources is not any catalogue description, but the remapping of document structures. This is difficult especially from various inadequate solutions based on library systems and where the structural maps controlled by structural metadata are replaced with multipage image formats, typically such as DjVu or PDF.

A new TEI P5 schema/DTD has been prepared and as soon as it is approved by partners and also as a project deliverable, it will be shared publicly with the aim that we would like to have it accepted also by the TEI Consortium as the main standard for digital representation of manuscripts including the adequate expression of document structures.

HOW TO PROVIDE SEAMLESS ACCESS

Seamless access means that the user does not need to navigate between systems from manuscript descriptions to visual representations of documents. If he/she navigates, then the central application is just a mere portal or a joint catalogue, while it is in no way a digital library. To become a digital library we need to be able to call and represent the data (mostly images) in the same viewing interface as if they were coming from one data reposi-

tory/databank. To be able to do this, we need to understand and remap the document structures that are leading to visual representations and to have the visual representations in the supported image formats of the Manuscriptorium viewer.

Most time in the initial post-analysis period was spent on remapping structures and in all cases this task was completed successfully for the first group of partners operating their own digital libraries: National Library of Spain, National Library of Italy in Florence, St. Pölten Diocese Monasterium project, or the digital libraries administered by the Cologne University Computer Science for Humanities Department.

Another problem was to come to an agreement as to image representations where multipage formats are applied, as we have decided not to break the applied browsing praxis and navigation within the document. This task concerned partly or completely the approaches of the National Library of Spain (PDF for old printed books) and our Polish partners. In both cases, the partners will provide also JPEG images in the future that will constitute, among others, a new enhancement of the Polish LIBRA system.

All this was encountered when cooperating with the institutions already running digital libraries, but many partners and still unknown potential partners do not have digitized manuscripts presented in digital libraries in spite of the fact that in many cases they do possess a lot of digital images. In this situation, Manuscriptorium can become their digital library and it can even be personalized and behave specifically as their entry point, but to do this they need to describe the digital output and structure it accordingly with the Manuscriptorium standards.

This is a rather critical issue, because the delivered format must be a validated XML file compatible with the Manuscriptorium DTD. We do not suppose that all the specialists in the area of manuscripts should be able to write such files from scratch in very general text editors; therefore, we have decided to develop a special editor with the following requirements: free downloadable software working on existing Windows platforms without any additional licenses, enabling a short bibliographic description and especially a correct structuring of the document with linking pages with images on any selected server.

The first program is called M-TOOL and it enables only a correct validated output. However, it has certain limitations: it corresponds with the Manuscriptorium schema that will be replaced by a new one, it has only XML output (not a MARC one), and it has certain problems with non-ASCII characters on some Windows localized platforms. It is used now by several institutions, among them the National Library of Romania.

The output from this program is to be uploaded to the so-called *Manuscriptorium for Candidates* working environment, a service provided to contributors who use Manuscriptorium as a primary access point for their data. This service provides the same viewing and document handling functions as the real Manuscriptorium so that the contributor can see how his document will look after being accepted into the Digital Library. In parallel, *Manuscriptorium for Candidates* is also an editing environment: each contributor gets special access rights (name and password) and he can use this environment for editing and viewing until he decides that the document is ready for upload. In this moment, a Manuscriptorium editor – i.e. a person on the side of the National Library of the Czech Republic – gets the contributor's files for revision; after that he can accept or return the structured documents. After all the problems between the editor and the contributor are cleared up, the editor assigns a status to the edited file that means that the technical administrator can include it into the future update of the digital library.

At the moment, a new tool for contributors is under preparation. It will be an on-line application, providing more flexibility and solving the problems with the known bugs. It will be based on the new TEI P5 Manuscriptorium schema and it will cooperate with *Manuscriptorium for Candidates*. We expect that it will be available in the first months of 2009.

WHAT CAN WE GET FROM THIS?

The internalization of Manuscriptorium is a great advantage for users: nowadays, it contains data from more than 40 Czech contributors, while around 30 foreign institutions have data in it or have expressed their willingness to share them. This number also includes the ENRICH content partners.

The Manuscriptorium content partners are not only those several institutions from the ENRICH project, but also many others, because anybody can associate with us. For this, an institution interested in joining can write a Letter of Intent and fill in a Technical Access Questionnaire so that we know which technical works are necessary. After successful testing of partner's data and their upload into the Manuscriptorium Digital Library, a series of contracts should be signed.

A License Agreement is about the rights to data and the basic principle is that the National Library of the Czech Republic gets the right to handle the data in Manuscriptorium, while the data ownership remains on the partner's side. On the other hand, a Sub-License Agreement gives to the partner full access to the whole Manuscriptorium content from all the partner's computers. All the texts of these documents are freely downloadable from the ENRICH server at the URL http://enrich.manuscriptorium.com, section *How To Join Us*.

As to access, Manuscriptorium respects the wishes of the contributors so that some documents are entirely freely accessible to their full extent, while others are available only on the level of metadata and preview images. The full license can be purchased or acquired through contribution to Manuscriptorium. In other words, through Manuscriptorium, the partners can extend substantially their services to users and they can also virtually enhance their collections with items from remote institutions having relationship to their own holdings.

The users, mostly researchers, get a powerful tool that economizes their time. Furthermore, they will be also given the opportunity to personalize Manuscriptorium and handle individually the digital objects up to creation of virtual documents across remote servers that can be used, for example, for research and teaching. Manuscriptorium will also contain some multilingual tools even if their application in such a linguistically heterogeneous environment may be rather problematic, because we handle not only various languages, but also various stages of their development.

Web Environment and the Public Library: Belgrade City Library Faces Challenges

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Средата на Интернет и обществената библиотека: Предизвикателства пред Белградската градска библиотека

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ABSTRACT

The story about public libraries is always the story about social aims and potentials. Being the capital of Serbia and the nation's center of economic, political, and cultural life, Belgrade offers a range of opportunities to the public library to develop a leading position in the process of social change. Belgrade City Library, the largest public library in Serbia, is confronted with a rapidly changing environment. In addition to recent change in economic and political patterns, there are at least three more challenges: new technology and the potential for new services that it brings; evolving demands of library users; and librarians' own new expectations for education and training.

Keywords: Public library; Web environment; Web 2.0

РЕЗЮМЕ

Разказът за обществените библиотеки винаги е описание на обществени цели и възможности. Като столица на Сърбия и национален икономически, политически и културен център, Белград предлага редица възможности обществената библиотека да получи водеща позиция в процеса на обществена промяна. Белградската градска библиотека, която е най-голямата обществена библиотека в Сърбия, е изправена пред бърза промяна на средата. Освен извършената неотдавна промяна на икономическия и политическия модел, съществуват още поне три предизвикателства: нови технологии и създадените от тях възможности за нови услуги, нарастване на потребностите на ползвателите и очакванията на самите библиотекари за образование и обучение.

Ключови думи: обществена библиотека; среда на Интернет; Web 2.0

INTRODUCTION

Given its turbulent history and recent political changes, Serbia's culture faces many challenges to adjust to the emerging needs of the community. Belgrade City Library, the largest public library in Serbia, is confronted with rapidly changing environment which promotes democracy, free flow of information, lifelong learning, information literacy and knowledge society as the general concept. Having in mind all the strategic initiatives made by the Serbian government and library professionals we can easily conclude that the story about public libraries is always the story about social aims and potentials.

BACKGROUND

Starting with the forth decade of the 19th century, over 90 social libraries were established in Serbia. Preceding the establishment of public libraries these social libraries expressed growing interest in social and political life, reading, and education. The Belgrade social library was the most developed among them and lasted for more than six decades, having a well organized collection of books, publishing a magazine, and gathering the most prominent citizens as its members and activists. The Belgrade Public Library, the biggest and most significant among the public libraries in Serbia nowadays, was founded in 1928 by the Belgrade municipality and was lucky to have Dr Marija Ilic Agapova (1895-1984) as its librarian and first director. Having a vision of the library as a public service she established professional work and training, introduced Universal Decimal Classification for organization of the collection, started the work of the children department, among other duties. The first Serbian monograph on the role of the public libraries, *The Public Libraries,* was written by Agapova in 1934.

It was the law of 1960 that set up the system of parent functions to specify the responsibilities of different library institutions for developing library practice both on the national and regional level. Parent functions were supposed to be performed by parent libraries and dealt with maintenance of the library register, management of the central catalogue, professional assistance to libraries, supervision of library professional work, professional training, monitoring, and evaluating of the certain library activities, and implementing improvement measures. The system was supervised by the National Library of Serbia which was a kind of methodological center to promote measures and programs for the growth of public libraries. The University Library played the same role for the network of academic and special libraries, while Matica Srpska library become the central library in the autonomous region of Vojvodina, and the central library in Pristina, Kosovo, was established as the central library in that autonomous region. For every other library, the responsibility of parent functions was given to 26 regional libraries. In the 1970's Belgrade City Library became the parent institution/central library for the network of 13 municipal libraries and about 90 branches.

Nowadays, Belgrade City Library consists of 14 different departments and divisions, where nine are placed in the main building and the rest are allocated elsewhere in the very center of Belgrade. Besides managing those segments, the library coordinates a network of municipal libraries and branches, covering altogether 77 locations throughout the city. These obligations apply not only to the Belgrade City Library network, but to three other independent municipal libraries, schools and some specialized libraries in the city. Networked libraries differ from independent libraries in that they operate entirely as one huge library with an integrated budget, acquisition, human resources, and membership. The Department of Library Development is a special department that is in charge of coordinating the network and performing the above described functions.

DRAMATIC CHANGES

Belgrade City Library survived dramatic changes in economic and political patterns after the Second World War and again in the 1990's. During the last decade of the 20[th] century the structure of Belgrade's population changed considerably: prevailing poverty, ever growing number of refugees, and ethnical reconfiguration disabled Belgrade City Library to take advantage of the fact that it is the metropolitan library, situated in the center of economic, political and cultural life. Statistics show that today a quarter of Serbia's 8 million inhabitants live in the capital of Belgrade, and about one third of the 40 million books in Serbian libraries are in the libraries of Belgrade, which are the most developed in the nation.

The number of Belgrade City Library users in the municipalities of Belgrade varies from 3.49 to 15.68 % of the local population, having an average value of about 9%. The employed population makes 28% of them. More than 51% of users are students of different ages, since the network of Belgrade educational institutions (consisting of the two hundred year old Belgrade University, the University of Arts, several private universities, around 300 primary and secondary schools, and 30 colleges) are now attended by more than 300,000 students. However, all user groups are focused on printed materials, especially foreign and domestic literature.

Following available statistics it is hard to notice serious efforts that are made for changing the situation toward new services and new technologies. However, we can trace them since 1987 when Belgrade City Library was the first public library in the country to implement elements of automation in its work. With the new millennium and socio-political changes in Serbia, libraries started regaining government support and received higher priority. Strategies of new books acquisition combined with restoration of library buildings and purchase of new technical equipment are compatible with the Strategy for the Development of Information Society shaped by Serbian government in 2005.

There are three major aspects to the changes experienced by the city's libraries: new technology and the potential for new services that it brings; evolving demands of library users; and librarians' own new expectations for education and training.

THE WEB ENVIRONMENT

Since we face continuous challenges due to rapidly evolving technologies and increasing demands from the community for a multitude of new services, we tend to focus on issues such as automation and reevaluation of services that we offer. What does this mean?

Library Website

In 2005, Belgrade City Library introduced a new version of the website with a completely new design and many new features and online services (available at http://www.bgb.rs). We started with basic info and kept adding new content. We recently added Google analytics to our website which helps us evaluate usage and makes it easy to improve our results online.

There are several features on the website that stand out and attract attention of our users. These are online catalog, audio archive, quiz, and kids' section.

One of the most significant developments during the last couple of years has been introducing an online catalog (available at http://bisis.bgb.rs). The system is fully adjustable to our needs, easy to use, and works properly both from users' and librarians' perspective. It became available online in 2007 and had a positive impact on the number and frequency of users. Our next steps will include possibility of book reservation, renewing, paying fees and making it all available via w@p.

For those who cannot attend cultural programs at Belgrade City Library, we made available downloads of audio files recorded during the programs. This proved to be very useful especially for disabled users and those living outside Belgrade city area. Downloads are free of charge and available for anyone visiting our website.

In 2006 we added a quiz that brings us one new member every day for free. All they need to do is answer one question from the field of culture / literature and if the answer is correct, they get free membership. This feature is very popular especially among high school and college students.

At the beginning of 2008 we introduced new pages especially designed for kids – interactive flash animation presentation of the Children's department (available at http://www.bgb.rs/zmaj). Besides the animation it provides reading lists, competition announcements, upcoming cultural programs, staff info, etc.

Web 2.0 for Library 2.0

New technologies will not save a library. Instead of going for "we must have a library blog because Mia says so", or "an article in *American Libraries* says many other libraries are doing great things with a blog" (such as Stephens, 2008), we decided to try various paths or tools to find the best fit.

Besides a regular website and its content, we decided to move a bit further and look for our present and potential users elsewhere on the web. Of course, we have found them in the Web 2.0 environment. Web 2.0 consists of using Web technologies in order to develop creativity, information sharing, and promoting interactivity with users. The main goal of Web 2.0 is encouraging personal contributions from every user in further Internet development and enrichment of its content. There are many Web 2.0 features that can be very useful for the library-patron relationship.

Among many different applications that Web 2.0 offers it is important to choose the ones that are useful for the library and most important, for patrons. Belgrade city library chose to create a blog and LibGuides – a secure guide through Internet resources. Both the Blog and LibGuides are mutually compatible and also compatible with Facebook, which puts us in the spotlight of social networking.

Creating a blog nowadays is quite easy and does not require any special IT skills. A good library blog needs three ingredients: inspiration, motivation, and dedication. Besides promoting the library's services, resources, and programs, it helps create a whole new perspective of the library and librarianship. The Belgrade City Library's blog is available at http://blogchebgb.blogspot.com.

The Internet's great strength and weakness at the same time is that today almost anyone can have a website, provide information, and proclaim it authoritative. From a user's point of view, filtering the offered content and separating reliable and credible sources from the unreliable ones can be pretty hard. Major search engines, such as Google, list results based on popularity and keywords provided by authors of websites, which does not imply that the results on top of the list are credible.

LibGuides is a web 2.0 content management and information sharing system designed specifically for libraries. Over 6,000 librarians at 350 libraries worldwide use LibGuides to create content, share knowledge, and connect with patrons. One of the taglines on LibGuides website says "Know what librarians know." This might be logical and easy to understand for users in highly developed countries where librarianship and libraries are well perceived by the public. However, the situation in Serbia is a bit different: people do not have a perception of librarians as all-knowing and all-seeing. Therefore, LibGuides is a perfect way to spread the word.

Of course, anyone can use Google to find information online. Nevertheless, it is sometimes very difficult to choose the right key words for search, or to decide if content you have found online is credible or not. That is where we come in. Librarians are the key to *successful* research. Some libraries provide "ask a librarian" service, but Belgrade city library decided to go with the LibGuides (available at http://bgb.libguides.com).

LibGuides is practically a website with many guides through many subjects and fields. It is also interactive, which is highly appreciated by users, as they can participate in polls, rate resources, and leave comments inside guides. Everything published in LibGuides is instantly available in Facebook, and also updated on Twitter. LibGuides Widgets display LibGuides content on any webpage, courseware system, blog, or a social network. Users can chat with librarians in real time, and subscribe to email updates whenever new guides are published. LibGuides helps us serve our users more effectively, by sharing useful information and knowledge with them. It is an ideal platform for raising the awareness about many library services and the availability of electronic content. By distributing our library content outside of the library website using LibGuides, we are able to market our library services in our community.

Facebook is one of the most powerful social networking services currently available. Its interface and framework allow a person to spread news virally as quick as any social bookmarking service. Facebook Groups, communities of friends with similar interests, are also becoming extremely popular. But, why create a Facebook Group? It is one of the best ways today to further promote brand presence, share news/events with the community and stimulate relevant discussion all in one spot. Belgrade city library has created a Facebook group (*Biblioteka grada Beograda*) recently and it proved to be very useful in reaching out to the community. After using this as a communication channel with our patrons and potential new members, we conducted a survey to find out what the response was. The evaluation showed better results than we could have imagined.

CONCLUSION

While Serbia is passing through a really painful process of transition, its libraries are trying very hard to reconnect to the world. Gaining the concept of being a learning organization means overall changes and libraries are faced with both technological and social obstacles. What Serbian librarianship needs is to strengthen its position as an impartial professional entity that serves all members of society, to build partnerships with other cultural institutions and with users in the community, to increase fund-raising from private sources, and to develop its role as an independent and apolitical, nonpartisan institution.

Over the last few years, Belgrade city library has made real progress in enhancing our existing users' experiences as well as opening up the library's resources to new audiences. Driven by the increasing demand for convenient online access to resources, we are developing an offering to make it easier to search and access material in our collections. It has not been easy to recognize, alter, and satisfy the needs of the community. Residents need more than a mere collection of books. By improving the quality of services, we made them more responsive to the needs of those who use them. Our new services are well-received, and we continue to work hard to improve them.

A learning organization places great importance upon organized and continuous learning. Together with positive responses to the environment, Belgrade City Library needs to provide all levels of staff with the skills and support they need to do their jobs effectively. The benefits that accrue to an organization with a well organized staff-training have long been established. Not only do staff become more proficient, but also staff morale and commitment are increased as the organization demonstrates that it is concerned about its staff and how they are developing (Goulding, 1995). The automation of processes has resulted in new working methods

in the library network. The scope of librarians' responsibilities has dramatically increased. Some of the main trainings provided for Belgrade city library staff are as follows:

- BISIS[1] training

- Internet training

- Web administration training

As a part of organizational and individual lifelong learning, we constantly aim to provide opportunities for attending local and international conferences.

The face of the Belgrade City Library is constantly changing. Our Internet business plan involves taking a few more steps in order to be fully accomplished, including: a web user forum, mailing list, RSS, podcasting, personalization and customization, open source, and open content. By offering attractive and popular services online, audiences offline are satisfied as well. On a broader level we have great things ahead of us: we are working to create the library's first strategic plan that would include the upcoming 10-year period. This involves planning for the future and ensuring that the workforce has the necessary skills to meet organizational objectives. The staff of the Belgrade City Library has dealt with challenges and change by adapting and improving the services it provides and reaching out to the community to better serve its needs. Libraries are an essential community resource, and we plan to continuously make improvements in technology, access to information, and learning opportunities for the public.

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[1] Locally developed MARC-based software for cataloguing.

Slavic Studies and the World:
Embracing the Revolution of Open Access Publishing

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Славистичните изследвания и светът:
Присъединяване към революцията на публикуването със свободен достъп

Йон Джулиан
Библиотеки на Канзаския университет
Съединени щати

ABSTRACT

This paper attempts to assess the level of open access publishing among Slavic Studies scholars in the United States. Who is publishing their work in open access journals or repositories? What types of materials are being published in this forum? What are the patterns? What are the obstacles? My hypothesis is that few Slavic studies scholars are actually publishing their works in open access, except for a few niche subjects. I will try to discover what are those subjects or areas of research, why they have embraced open access, what obstacles Slavic scholars face, and what can be done to encourage more Slavicists to publish in this venue. Data will come from OAIster, a union catalog of digital resources.

Keywords: Open access journals; Open access repositories; Slavic scholars; OAIster

РЕЗЮМЕ

Този доклад е опит да се прецени нивото на публикуване със свободен достъп между изследователите в областта на славистичните изследвания в Съединените щати. Кой публикува произведенията си в списания или репозиториуми със свободен достъп? Какви видове материали са публикувани в такива форуми? Какви модели съществуват? Какви са спънките? Моята хипотеза е, че в областта на славистичните изследвания малцина са учените, които публикуват произведенията си със свободен достъп, с изключение на работещите по някои определени теми. Ще се опитам да открия, кои са тези теми и области на изследване, какво ги е накарало да възприемат публикуването със свободен достъп и какво може да се направи, за да се подтикнат повече слависти да публикуват по този начин. Ще бъдат използвани данни от OAIster – своден каталог на дигитални ресурси.

Ключови думи: списания със свободен достъп; репозиториуми със свободен достъп; учени слависти; OAIster

INTRODUCTION

On December 26, 2007, the United States passed the "Consolidated Appropriations Act of 2007 (H.R. 2764) requiring the National Institutes of Health (NIH) to provide open access to the results of publicly funded research. This law requires researchers to deposit electronic copies of their manuscripts into PubMed Central, the National Library of Medicines electronic repository (McLennan, 2007). In 2008 publishers have coalesced to fight back. Arguing that the NIH Public Access Policy undermines "their subscription base and their economic viability," publishers are attempting to overturn the current policy through a new piece of legislation dubiously called the Fair Copyright in Research Works Act (see Weiss, 2008; NIH, 2008).

On November 2, 2008, Peter Suber, independent policy strategist for open access to scientific and scholarly research literature, sent and open letter to presidential hopefuls John McCain and Barack Obama. In his letter, Suber encourages the next president elect of the United States to actively support open access in the form of a "national commitment to make non-classified results of federally funded research freely available online" (Suber, 2008). Although open access has been gaining momentum for a number of years, university scholars and librarians across the country hope that President Obama"s program for change will include this type of commitment to open access.

In the absence of a national commitment, American scholars and universities have been forging ahead with open access initiatives. In the area of policy, several institutions in the United States have joined a slew of similar organizations worldwide to create open access archiving polices. The Registry of Open Access Repository Material Policies (ROARMAP), documents fifty-seven mandates and eleven proposed mandates from universities and funding institutions across the globe (ROARMAP, n.d.). In particular, the Harvard University Faculty of Arts and Sciences recently adopted a policy of open access to the "fruits of their research." According to this policy:

> Each faculty member grants „to the President and Fellows of Harvard College permission to make available his or her scholarly articles and to exercise the copyright in those articles. In legal terms, the permission granted by each Faculty member is a non-exclusive, irrevocable, paid-up, worldwide license to exercise any and all rights under copyright relating to each of his or her scholarly articles, in any medium, and to authorize others to do the same, provided that the articles are not sold for a profit. The policy will apply to all scholarly articles written while the person is a member of the Faculty except for any articles complete before the adoption of this policy and any articles for which the Faculty member entered into an incompatible licensing or assignment agreements before the adoption of this policy. ("Agenda," 2008)

Although the mandate includes an "opt-out provision," Harvard faculty are automatically "opted-in" unless they make a specific request to "opt-out." According to Steven Harnad, the Harvard policy is a bold step forward by one of America"s leading academic institutions toward broader open access to academic scholarship. A little closer to home, the University of Kansas has also taken steps toward open access with a proposed multi-institutional mandate that is documented in the ROARMAP.

As a librarian in Slavic and Eurasian studies, my interest in Open Access revolves around my discipline; specifically, to what degree scholars in the field in the United States are embracing Open Access. This study attempts to answer several questions, which include:

1. Who, among North American scholars in Slavic and Eurasian studies, is publishing or depositing their works in open access venues?

2. What types of documents are being made available?

3. What patterns, if any, have emerged? (E.g. Which disciplines or regions within Slavic and Eurasian studies have posted the most open access documents?)

My hypothesis is that relatively few scholars in Slavic and Eurasian studies are currently publishing or depositing their works in open access venues. Hopefully, the results of this study will help scholars of Slavic and Eurasian studies consider open access as a way to make their research available to a broader audience as a well as a way to self-archive their own work (see Endnote 1).

METHODOLOGY

The present study uses the checklist method, a long-established method for analysis of library collections. The key component of this method is of course the checklist. This study uses the 2003 Directory of Members from the American Association for the Advancement of Slavic Studies (or AAASS). The 2003 directory contains the names of 2,886 individuals and was selected because it represents the largest body of scholars, professionals, and students of Slavic and Eurasian studies in North America. The directory also includes a fair number of scholars from Europe and elsewhere. Although somewhat outdated, the 2003 edition is the last printed version of the directory; and it was not feasible to generate a printed version of the new online version of the directory.

Data for the study were generated by searching the names of all 2,886 individuals in the union catalog of digital resources called OAIster. Originally developed by the University of Michigan and the University of Illinois at Urbana-Champaign, OAIster currently provides access to more than 18 million records of digitized books and articles, born-digital texts, audio files, images, movies, and datasets. OAIster is freely available online, but it is important to note that OAIster includes records for open access documents as well as documents with restricted access.

The process of searching OAIster involved several nuances that deserve to be mentioned. First, OAIster treats multiple terms in each field as phrase. Because author names could appear in standard or inverted order, queries in OAIster followed a standard pattern below:

Ronelle Alexander   OR   Alexander, Ronelle

(Standard order)   (Inverted order)

If the AAASS directory included middle names or initials, queries were repeated with the middle name or initial. Second, even though OAIster includes records for both "open access" and "restricted access" documents, only documents that were found to be "open access" were included in the data sample (examples include records submitted by commercial database providers, such as Project Muse, JSTOR, University of Chicago Journals, etc.). Finally, queries sometimes returned records of documents authored by different people with the same name. This was especially the case with common names such as Michael Smith. In some cases, additional terms were added to the query. In other cases we used additional data from the directory to help us identify the correct individual. Although time consuming false hits, generally, were easy to eliminate since most of them were related to the hard or natural sciences.

RESULTS

Queries in OAIster returned records of open access documents for three-hundred sixty (360) AAASS members. This is approximately twelve and one half percent (12.5%) of the

total number of members listed in the directory. Three-hundred four (304) of those members are from North America while the remaining fifty-six (56) members come primarily from Europe and Japan. Data from individual records of "open access" documents were compiled into a spreadsheet and then sorted and quantified by category. Categories include: academic rank, institution, country, subject, region, type, and source/data contributor. These results were then compiled into a series of tables that provide a snapshot of current open access activity among AAASS members in North America and worldwide.

Academic Rank

When sorted by academic rank, the results suggest that senior scholars are leading the way to open access in Slavic and Eurasian Studies. According to data in Table 1, scholars at the rank of full professor are responsible for over 35 percent of the open access documents produced by AAASS members. This is more than twice the number of scholars at the rank of associate professor; and nearly three times the number of scholars at the rank of assistant professor.

Profession / Title	Number	Percent of members
Professor, Full	129	35.6%
Professor, Associate	59	16.3%
Professor, Assistant	45	12.4%
Student	30	8.3%
Professor, Emeritus / Retired	20	5.5%
Lecturer	19	5.2%
Professor, Adjunct	12	3.6%
Researcher	12	3.3%
Administrator	6	1.7%
Librarian / Information Specialist	6	1.7%
Other	21	5.8%

Table 1: Who produces the most?

Proponents of open access frequently mention the need for established scholars to lead the way into open access. Why? In part because scholars at the full professor level are not dependent upon publishing in the top-tier journals in order to be promoted with tenure. Having already achieved the highest level of rank within the current system, they could potentially promote open access by publishing their works in open access venues rather than in commercial journals. In contrast, scholars at the Associate and Assistant Professor levels must publish their work in the top-tier journals of their field in order to get tenure and be promoted. Although more evidence is needed to show that seasoned scholars have "embraced" open access to a greater degree than their junior colleagues, the data suggest that senior scholars do indeed "lead the pack" in open access publishing and/or self-archiving within the field Slavic and Eurasian studies.

Institutions

When sorted by institution (Table 2), data indicate that the University of California at Berkley and the University of Michigan have the highest number of AAASS members who

have deposited open access documents. They are followed by Harvard University, Ohio State University and others. The University of Toronto emerged as the top Canadian institution, which is not surprising since Toronto is a hub of scholarly activity for Slavic and Eurasian studies. While this list of top schools is encouraging, even more heartening is the overall number of institutions whose scholars in Slavic and Eurasian studies have made works freely available. In North America alone, 304 AAASS members from 167 colleges, universities and other institutions have made works available in open access venues. This number is not insignificant, considering the relatively small number of colleges and universities with programs in Slavic and Eurasian studies. This number suggests that open access is gaining momentum in Slavic and Eurasian studies across North America. This is indeed encouraging.

Institution (2003 data)	Number of members
U of California - Berkeley	13
U of Michigan	12
Harvard U	9
Ohio State U	8
U of Pittsburgh	8
U of Toronto	7
U of Washington	7
Indiana U	6
U of Illinois at Urbana-Champagne	6
Yale U	6
Georgetown U	5
Stanford U	5

Table 2: Who has the most scholars?

Subjects

The data in Table 3 show which disciplines account for the largest number of open access documents created by AAASS members. Top disciplines include history, political science, language and literature, and economics. Since these four subjects have always dominated Slavic and Eurasian studies in North America it is not surprising that open access publishing data follow the same general pattern. The language and literature category may be somewhat low since many scholars of language and literature do not belong to AAASS but rather to another organization, the American Association of Teachers of Slavic and East European Languages (ATSEEL). Were the study to include members of both AAASS and ATSEEL, the number of open access documents in language and literature would probably be higher.

Subject	Number	Percent of members
history	153	42.5%
political science	111	30.8%
language & literature	60	16.7%
economics	34	9.4%
culture & arts (art architecture, cinema, music)	16	4.4%
sociology	15	4.2%

anthropology & folklore	13	3.6%
military studies	11	3.1%
libraries, information, & publishing	7	1.9%
geography & environment	6	1.7%
demography & ethnic studies	5	1.4%
ethnic studies	3	0.8%
communications	2	0.6%
area studies	1	0.3%
Total	437	
Members	360	100.0%

Table 3: Which disciplines are ahead?

Regions

Data in Table 4 show the percent of scholars whose open access documents are related to a specific region. Although the arrangement is somewhat arbitrary, it attempts to reflect the topics found in open access documents that were identified. For example, documents that specifically focused on the Balkans as a whole were included in a separate category for the Balkans. Because many of the documents for Bosnia, Croatia and Serbia addressed all three regions, they were combined into one category. For the same reason, the Czech Republic and Slovakia were combined into one category. It is no surprise that the majority of documents are related to Russia and the Soviet Union. What is encouraging is the fact that nearly every country of the region is represented to some degree.

Subject	Number	Percent of members
Balkans	3	0.8%
Baltic Republics (Estonia, Latvia, or Lithuania)	10	2.8%
Belarus	1	0.3%
Bosnia, Croatia, Serbia, or former Yugoslavia	22	6.1%
Bulgaria or Macedonia	4	1.1%
Central Asia	12	3.3%
Czech Republic & Slovakia	13	3.6%
Eastern Europe	31	8.6%
EU, NATO, UN, Globalization	12	3.3%
Former Soviet Union (post-1991)	10	2.8%
Hungary	10	2.8%
Poland	21	5.8%
Russia	189	52.5%
Slavic	10	2.8%
Slovenia	8	2.2%

Soviet Union (pre-1991)	50	13.9%
Ukraine	8	2.2%
Total	414	
Members	360	100.0%

Table 4: How many regions are represented

Document Types

The results for document types (Table 5) show that open access documents produced by AAASS members consist primarily of scholarly articles and theses/dissertations. Of the individuals whose documents were retrieved by OAIster, sixty eight percent have scholarly articles in open access venues; seventeen percent have a thesis or dissertation in open access venues. The overwhelming predominance of articles was a surprise. The high number of theses and dissertations, on the other hand, was expected given the recent trend in thesis and dissertation publishing. Because theses and dissertations are generally published in few copies, it makes perfect sense to make them freely available. I had anticipated that more documents of so called "gray literature" would appear in open access venues. But in fact, "gray literature" was scarce. This may be due to the fact that "gray literature" may be posted more randomly on the Web and, thus, not harvested by OAIster. If this is indeed the case, one wonders whether how much gray literature is being archived.

Subject	Number	Percent of scholars
audio	4	1.1%
books	7	1.9%
column / newsletter	9	2.5%
images	13	3.6%
papers (conference, discussion, position, working)	20	5.6%
presentations	7	1.9%
reviews	11	3.1%
scholarly articles	245	68.1%
summaries	1	0.3%
surveys	1	0.3%
thesis / dissertation	62	17.2%
video	1	0.3%
web site	7	1.9%
Total	388	
Members	360	100.0%

Table 5: Which document types predominate?

The results for visual documents (images) also bear mention. Nearly all image records retrieved from OAIster came from the University of Washington Libraries Digital Collections. Although the number of AAASS members who submitted images is relatively low, the actual number of image records is extremely high (Table 5a below).

Name	Number of images
James E Augerot	110
Eloise M. Boyle	91
William Craft Brumfield	1143
Ann Kleimola	79
Lauren Leighton	49
Walter Gerald Moss	31
Guntis Smidchins	520
Susan Nicole Smith	5
Robert W. Smurr	960

Table 5a

Source / Data Contributors

Data in Table 6 show the top venues for open access documents among Slavic and Eurasian scholars. The University of Michigan Library Repository tops the list with 55 AAASS members (out of the total 360) whose documents are available there. Next is the University of California eScholarship Repository with 35, Followed by the French organization, Revues.org, with 33. Others include: Hokkaido University Collection of Scholarly and Academic Papers (HUSCAP) with 29, Research Papers in Economics (RePEc) with 24, The Defense Technical Information Center (DTIC) Repository at 22, Deep Blue at the University of Michigan with 21, The Scholarly Commons at Penn (Pennsylvania University) at 16, and The Archive of European Integration (AEI) from the University of Pittsburgh with documents from 15 different scholars in Slavic and Eurasian studies.

Source/Data Contributor	Number
University of Michigan Library Repository	55
University of California eScholarship Repository	35
Revues.org: Fédération de Revues Scientifiques en Sciences Humaines et Sociales	33
Hokkaido University Collection of Scholarly and Academic Papers (HUSCAP)	29
Research Papers in Economics (RePEc)	24
Defense Technical Information Center (DTIC) Repository	22
Deep Blue at the University of Michigan	21
ScholarlyCommons@Penn	16
Archive of European Integration (AEI)	15
Library and Archives Canada Electronic Theses Repository	13
Persée: Périodiques Scientifiques en Édition Électronique	13

Table 6: Where do they post the most?

CONCLUSION

Now that all this data has been collected and analyzed, what is the overall significance? In other words, why does it matter? First, open access venues are important for Slavic and Eurasian studies because they make material available to small audiences scattered all across the globe. For example, *Slovene Linguistic Studies* (*Slovenski jezik,* a joint publication by the Slovenian Academy of Sciences and Arts and the University of Kansas, is a print-based journal that has been digitized and deposited in KU"s digital repository, KUScholarWorks. When asked why it was decided to make the journal open access, co-editor from the University of Kansas, Marc L. Greenberg, explained that the goal was to promote the study of Slovene language and linguistics, not to make a profit. Open access is a way to make the content of the journal available not only to scholars but also to Slovene language enthusiasts worldwide and for whom a subscription to the print copy would be either impossible or cost-ineffective. Open access digital copies of *Slovene Linguistic Studies* make distribution easy without affecting the financial integrity of the journal. Indeed, institutional repositories and other open access venues can serve as a way to disseminate scholarship to parties that would not have access through traditional publishing models. In other words, open access broadens the reach of scholarly communication.

Second, over the past two decades, and especially since 2000, the cost of scholarly journals has skyrocketed. In a recent issue of *CRL News*, the price increase for journals in physics was compared to the price of gas. Had the price of gas increased at the same rate as physics journals, gas would now cost over 12 dollars per gallon. If the trend continues, research collections in North America and worldwide will continue to shrink indefinitely. Combined with other economic woes which are now headed in our direction, libraries will be unable to provide the amount of research materials that scholars have come to expect; that is, unless other avenues of publishing, such open access, can fill the gap.

Third and finally, although open access is currently just a drop in the bucket compared to commercial journal publishing, the results of this study are encouraging. They suggest that the movement toward open access is not isolated or dominated by any one group or country. Rather, a growing number of Slavic Scholars are self-archiving their work and depositing copies of the research in open access repositories. Combined with institutional mandates, such as the one undertaken by Faculty of Arts and Sciences at Harvard University, open access publishing may see a surge in growth in coming years. After all, universities (and other institutions) are the ones who support the research; so why not be the ones who also make it available to the world? When we publish, we help to ensure that our collections do not perish.

ENDNOTES

1. "To self-archive is to deposit a digital document in a publicly accessible website, preferably an OAI-compliant Eprint Archive. Depositing involves a simple web interface where the depositor copy/pastes in the „metadata" (date, author-name, title, journal-name, etc.) and then attaches the full-text document. Self-archiving takes only about 10 minutes for the first paper and even less time for all subsequent papers. Some institutions even offer a proxy self-archiving service, to do the keystrokes on behalf of their researchers. Software is also being developed to allow documents to be self-archived in bulk, rather than just one by one." See "Self Archiving FAQ." *Open Access and Institutional Repositories with EPrints.* Accessed 26 Nov 2008: http://www.eprints.org/openaccess/self-faq/#self-archiving

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The Law for Public Libraries in the Republic of Bulgaria:
A Model of Transformation of the Library Sector and
a Prerequisite for the Extended Access to Information

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Законът за обществените библиотеки в Република България:
Модел за трансформация на библиотечния сектор и
предпоставка за разширяване достъпа до информацията

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Народна библиотека "Св. св. Кирил и Методий"

ABSTRACT

The paper deals with issues connected with the state of the normative basis for libraries in the Republic of Bulgaria. An analysis is made on the necessity of the adoption of normative documents which should contribute to the improvement of activities in the sector of libraries and extend the access to information and library services for the public. The project Legal regulation of Libraries and Library-information Activities is a joint initiative of the Ministry of Culture, the British Council in Bulgaria and the Bulgarian Library Information Association. This project started in 2006 and was completed in May 2009 with the adoption of the law for Public Libraries and the drawing up of a package of documents for different libraries in Bulgaria. The phases of the project as well as its provisions for transforming libraries into modern information centers are outlined below.

Keywords: Library legislation; Public library act; Library standards; School libraries; University libraries

РЕЗЮМЕ

Докладът разглежда въпроси, свързани със състоянието на нормативната база на библиотеките в Република България. Прави се анализ за необходимостта от приемане на нормативни документи, които да съдействат за подобряване дейността на библиотечния сектор и за разширяване достъпа на информация и библиотечни услуги за гражданите. Представя се проекта "Правна регулация за библиотеките и библиотечно-информаци-онните дейности в България" - съвместна инициатива на Министерството на културата, Британския съвет – България и Българската библиотечно-информационна асоциация. Той стартира през 2006 и завършва през месец май 2009 г. с приемането на Закон за об-ществените библиотеки от Народното събрание и с разработване на пакет от документи за различните видове библиотеки в страната. Представени са етапите на проекта и иде-ите, заложени в него за трансформиране на библиотеките в модерни информационни центрове.

Ключови думи: библиотечно законодателство; проектозакон за обществените библиотеки; библиотечни стандарти; университетски библиотеки; училищни библио-теки; специални библиотеки

INTRODUCTION

Libraries in Bulgaria are among the institutions which suffered most in the „transition" period. Over a period of 20 years libraries were reduced by about 30 percent (over 3000 li-braries). This has had its impact on society as a whole considering their importance for the advancement of culture, science, education, technology, economics, the business, the process of democratization and informatics together with the social integration and improvement of the quality of life in general. Unfortunately, over the years libraries and their mission have not received the necessary attention by the political elite and the responsible institutions. Libraries are among the organizations which need protection and support by the state. In spite of these difficulties, the partial survival and vitality of the sector are results of the efforts of the Bul-garian Library Information Association (BLIA), sponsors and several organizations which are aware of the importance of libraries and support them. Throughout the years of transition these organizations attempted to create policies and strategies for the development of libraries in line with international tendencies through the effective and efficient models of action and restruc-turing as well as to introduce new technologies in library infrastructure. These efforts have always been building upon EU policies and current practices. The most recent initiative of the project *Legal Regulation for Libraries and Information Activities in Bulgaria* aims at estab-lishing a normative basis in the library and informative sector thus achieving efficiency in its work for the public at large. The project was a joint initiative of the Ministry of Culture, the British Council in Sofia and BLIA. Through the proposals of documents an attempt was made to change the model of development for libraries in Bulgaria and transform them into active agents who can cater to the information needs of various groups of Bulgarians. The documents contain present day tendencies in line with European norms and practices for libraries.

STATE OF THE NORMATIVE BASIS FORBULGARIAN LIBRARIES

In the course of the transformation into a market economy the Bulgarian state failed to create a national strategy corresponding to the general European documents, which support the role of libraries in society – hence a serious lagging behind in the normative basis for libraries compared to the rate of reforms in the normative system in the state. **Bulgaria was the only**

country in Europe without a special legislation for libraries. Libraries did not exist in legislation as a legal subject. In the period after 1992 the library community, assisted by various programmes, proposed two drafts of a Law on libraries which for different reasons were not passed. Libraries or their basic activities are only partially mentioned in some of the newly adopted normative acts regulating public relations in various sectors. Unfortunately, they do not deal with the status and funding of libraries and do not create the necessary prerequisites for their proper functioning and development into public information centers.

TENDENCIES IN THE DEVELOPMENT OF LIBRARY LEGISLATION AND POLICY IN EUROPE

A system of library legislation functions in European countries and in many other countries. Global changes over the past years have called for drafting and consolidation in 2000 of the updated Recommendations for European Library Legislation and Policy of the Council of Europe and the European Bureau of Library, Information and Documentation Associations (EBLIDA).

NEW PROPOSALS FOR THE NORMATIVE REGULATIONOF BULGARIAN LIBRARIES THROUGH THE PROJECTLEGAL REGULATION OF LIBRARY INFORMATION ACTIVITIES IN BULGARIA

In order to change the existing situation the project *Legal Regulation of Library Information Activities in Bulgaria* **was** initiated and devised jointly by the Ministry of Culture, the British Council – Bulgaria and the Bulgarian Library Information Association. The project began in 2006 and aided the realization of ideas for the devising of a package of documents for libraries in Bulgaria.

The main aim of the project is the establishment of a system of normative documents on library and information activities (harmonized with European directives) as a prerequisite for the full realization of the main mission of libraries as sources of information and cultural and social institutions. New projections and a model of development of the library sector are sought by this project. The final aim is to widely facilitate access to information for the public and improve the quality of library services.

WHY WAS SUCH A PROJECT NECESSARY?

• Libraries are an important element of education, science and culture and play a major part in the building up of a civil society and in the advancement of the knowledge based economy;

• Bulgarian legislation is under a process of renewal and harmonization with the framework of the EU. Against a background of intensive adoption of legislation in various spheres, the renewal of the normative basis for libraries was lagging behind;

• Libraries were absent in legislation as a topic. Bulgaria was the only country in Europe without special legislation for libraries;

• A number of newly adopted laws concerning libraries and their main activities did not refer to their status and funding;

• The laws in force concerning culture, science and education partially concerned libraries but did not regulate all activities in the sector (The law for the Promotion and Development of Culture (1999); the Law for the Community Centres (1996), The Law for

Public Education (1991), the Law for Higher Education (1995), The Law for the Legal Deposit of Copies of Printed Matter and other materials (2002);

- The National policy towards the library sector was not clearly formulated by political actors. The potential of libraries as democratic institutions, guaranteeing free and equal access to information for all citizens was not defined;

- In the national strategies for information society, electronic Government, the promotion of school and higher education, libraries were not seen as active participants and partners who could contribute considerably to the realization of the set goals;

- The creation of an up-to-date normative basis was identified as the main prerequisite for the modernization of separate libraries and the transformation of the library network as a whole into an adequate network for an information society.

MAIN ACTIVITIES OF THE PROJECT

Phase One: The British experience in legal regulation of libraries and library-information activities, directives and recommendations of the European Union and the experience of the separate European countries were studied. An analysis of the state of the existing normative basis in the country was carried out. An expert assessment of the normative basis and the policy in the library sector in the country was made by a leading specialist from the United Kingdom. A model of library legislation was drafted up by a group of experts from the Ministry of culture and the Bulgarian Library Information Association.

At the end of the first stage of the project, in December 2006 a conclusive forum and discussion were held with the broad participation of all interested institutions in the country – Governmental and Non-governmental organizations.

Participants in the forum reached agreement on the following:

- Libraries are important institutions which should be instrumental in achieving the country"s main goals in the fields of economics, science, technology, education and culture as well as in the process of creation of an information society and economy based on knowledge;

- The project dedicated to the creation of a legal framework for Bulgarian libraries, harmonized with European directives and standards, is absolutely necessary and relevant. The present day normative basis is an important prerequisite for the accelerated development of the library sector. Drawing up a legal framework is inextricably bound up with the application of new principles of Governmental policy to libraries and the drafting of a national strategy for their development.

Stage two (2007): Work groups were established for the drawing up of the separate normative documents and for the preparation of draft texts; the texts were discussed at the expert level and within a wider circle of representatives of the interested parties; procedures of coordination were carried out; drafts for documents have been presented to the Minister of Culture.

REALIZATION OF THE PROJECT

Two groups of documents were drawn up.

I. A *Draft Law for Public Libraries* was drawn up.

The *Draft Law for Public Libraries* cites the motivation of the need of a Law for Public Libraries:

- Under contemporary conditions of globalization and easy access to information, Bulgarian public libraries do not conform to European (international) standards and do not meet the expectations of society for modern information, educational, cultural and social centers offering both print and electronic sources of information.

- Public libraries are the most numerous in the country (over 3300) and they are the backbone of territorial library services. The continuation of the economic crisis and the unresolved legal status of libraries had detrimental effects on some libraries and prevented them from carrying out their main functions. A considerable part of the Bulgarian public does not have a library service which is a breach of its constitutional right to access to information.

- Public libraries function independently, without regulated coordination, which has resulted in inefficiency and irrational expenditure of the budgets and other financial means.

- The status, funding, and forms of interaction of community centre libraries, the most numerous public libraries, are not outlined in the *Law for Community Centers*.

- The present day functions and tasks of the St. St. Cyril and Methodius National Library - the largest public library – have no regulation.

- Leverages are absent for the assessment of the activities of libraries - both internal and public audit.

- There is no regulation of the education of the library personnel at a level where the requirements towards specialists are very high and the vitality of the sector depends on their qualifications.

- There is a need of upgrade of the normative basis on the legal deposit of documents.

In the drawing up of the draft law the directives and recommendations of the Council of Europe have been taken into account and analysis and a comparison of legislation of over 25 countries have been made. Current legislation in the country also served as a basis.

The draft law proposes a package of measures for the stabilization of the library sector and its transformation in line with international tendencies, taking into account the current situation in the sector in Bulgaria. The main emphasis is put on the following organizational, managerial, structural, financial, technological, educational, informational, and substantial components:

1. A modern definition of the basic functions of the types of public libraries as cultural, educational and information institutes which provide a broad specter of library-information services by gathering, storing and processing printed matter and other documents containing information for the public. The emphasis is on guaranteeing the public equal and free access to key services.

2. The building up of a new type of relationships between public libraries through the creation of a National network of public libraries.

3. Regulation of the conditions which a library should provide, the working hours of a library, the funding of libraries, their management and interaction within the National network of public libraries.

4. Characteristics of the types of public libraries and their role in the National network of public libraries. A detailed description of the functions and tasks of St. St. Cyril and Methodius National Library as a national Library for the country are given. The term „central municipal library" is introduced, characterizing the main public libraries in the territory of the municipality. The draft law takes into account and considers the specifics of the community center"s libraries as an inseparable part of the Community Centre proper.

5. Defining the types of library services provided to the public; differentiating them into basic ones and specialized ones.

6. The building up of a harmonious system for the management of the National network of public libraries together with criteria for the assessment of the library activities.

7. Characteristics of the type of equipment of libraries and mechanisms of their maintenance and further development.

8. A contemporary model for the funding of various types of public libraries through the introduction of additional financial instruments, which would ensure the realization of strategical goals aiming at the advancement of the National network of public libraries.

9. A system of requirements towards the professional qualification of personnel in public libraries. These requirements should be in line with the leading trends in Europe. Its goal is to turn libraries into contemporary centres of services and stabilize the profession and status of library-information specialists through higher levels of education and competence.

10. The introduction of a new type of normative document - *Standard for Library Information Services* - applied in advanced countries. The aim is to set the necessary quantitative and qualitative criteria for the funding and assessment of public libraries.

11. A modern approach for the overcoming of the drastic lagging behind of Bulgarian libraries through the adoption of seven-year strategic plan for the development of a National network of public libraries.

II. A Package of normative documents has been prepared.

- Proposals for Amendments in the *Law for Legal Deposit of Copies of Printed Matter and other materials (2000)*

- A standard for university libraries

- A standard for special libraries

- A standard for school libraries

- An ordinance for library-information services within the system of public education

CONCLUSION

The team of experts prepared the documents within the deadlines. They were presented for discussions to the Ministry of Culture and other interested bodies and organizations. Various discussions were held at expert level.

The Draft-law for Public Libraries, with minor amendments was introduced for discussion in the Council of Ministers and the National Assembly. It was adopted on May 26[th] 2009 by the National Assembly of the Republic of Bulgaria.

In our opinion the passage of the law should lay the foundations for a framework for the successful functioning of public libraries.

Moreover, we believe there is something much more important. The professional community, through its professional organization (The Bulgarian Library Information Association) has proven beyond doubt its maturity, strength, professionalism and potential as an equal partner of state institutions.

We are aware that with the adoption of the law we have not come to the end of the road. The time has come to successfully apply it and design sub-normative documents. Above all libraries shall see those as instruments of change and transformation.

Evidence-based Management:
Assessment, Plan, Budget, Action

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Мениджмънт основан на данни:
Оценка, планиране, бюджет, действия

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ABSTRACT

University Libraries at the University of Northern Colorado have used an "evidence-based management system" to drive decision-making and budgeting with good success in recent years. Spurred by *Charting the Future*, a 2003 initiative of the University President, the Libraries have been restructuring its relationship with the academic departments into a collaboration for achieving our shared educational objectives. Because information literacy is a collective responsibility, the Libraries is prepared, in a spirit of partnership with other campus units, to more fully transform itself into a "Teaching Library" that will be a center for collaborative teaching and learning on campus (University Libraries Task Force on Leadership/Management, 2005, p.6). This paper describes the process taken by the Libraries to develop an Evidence-based Management System.

Keywords: Assessment; Planning; Budgeting; Evidence; Management

РЕЗЮМЕ

През последните години в процеса на вземане на решения и определяне на бюджета университетските библиотеки в Университета на Северно Колорадо успешно използват „система за мениджмънт, основан на данни". Подтикнати от инициативата на Президента на университета от 2003 година *Планиране на бъдещето*, библиотеките насочиха връзките си с университетските катедри към сътрудничество за постигане общи образователни цели. Информационната грамотност е обща отговорност и затова, в духа на партньорство с другите организационни единици в университета, библиотеките са готови за по-съществена трансформация в „обучаваща библиотека", която ще бъде център за обучение и учене в кампуса. (University Libraries Task Force on Leadership/Management, 2005, p. 6). Този доклад описва процеса на развиване на система за мениджмънт, основан на данни от библиотеките.

Ключови думи: оценка; планиране; бюджет; доказателство; мениджмънт

INTRODUCTION

The University of Northern Colorado's (UNC) University Libraries has implemented an evidence-based management model that relies upon assessment of collections, services, and instruction as an integral step. This cycle of assessment, planning, budgeting, and action, has proven to be a valuable and insightful tool over the past five years.

A Carnegie Research-Intensive institution, the University of Northern Colorado, with a student full-time-equivalent of 12,000 and a nationally-recognized undergraduate business program, as well as a critically-acclaimed music program, is the teacher education university in Colorado, offering graduate degrees in a number of disciplines. The University Libraries include the Howard Skinner Music Library, supporting the Music and Musical Theater programs, and the James A. Michener Library, which supports the majority of curricula across campus. The combined University Libraries hold more than 2.5 million items, and have made significant investments in digital collections.

In 1988, the first Libraries Assessment Committee was formed, conducting a survey of user satisfaction that fall (Blankenship and Fleming, 2004). Since then, numerous instruments have been implemented, including locally-designed surveys and questionnaires, focus groups, and LibQual^{+TM}, which was first deployed in 2003, then again in 2004, 2005 and 2007. Findings of the Assessment Committee have informed planning within the Libraries for the past two decades, providing evidence of the changing needs of faculty and student patrons.

THE LIBRARIES' EVIDENCE-BASED PROCESS

In 2003, *Charting the Future*, an initiative of the University President, spurred even greater interest in accountability and evidence of rationale for planning and budget requests, resulting in an initiative for evidence-based management at all levels of the university, including the libraries. UNC's Libraries must submit a budget for each academic year, requesting not only those ongoing funds that support staffing and collections, but also special projects such as furniture upgrades and remodeling plans. *Charting the Future* created an opportunity for the Libraries to position itself as a Teaching Library, collaborating with academic colleagues across campus to attain "our shared educational objectives" (University Libraries Task Force on Leadership/Management, 2005).

The Libraries designed an evidence-based management process, as seen in Figure 1 to facilitate university-wide collaboration in redefining and reinvigorating the role of the academic library.
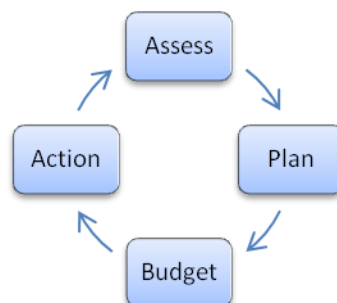
Figure 1: Evidence-based planning process

The intent was to move the perception of the library from a traditional and generic role characterized by a warehouse mentality, isolationist perception, exclusion from institutional priorities, limited funding, and lack of stakeholders to a role incorporating the exuberance of the Teaching Library concept, the characteristics of which were identified as:

- The intellectual heart of the campus

- A welcoming place for all students

- An outstanding resource recognized both on and off campus

- Student-centered and dedicated to fostering student success

- An essential partner in producing students with the information literacy skills necessary to be productive members of society

- Cost effective in providing excellent services

- Responsive to internal and external change

The evidence-based management process was specifically designed to foster university-wide acceptance of the Teaching Library role, including its importance to the recruitment and retention of faculty and students. Incorporating this redefined role into the university culture became a major function of the Assessment Committee as it pursued the realities of campus perceptions and needs.

THE CYCLE: ASSESSMENT

Assessment, and consequently the role of Libraries' Assessment Committee, became the focal point of the evidence-based cycle. Historically, the committee has been comprised of both faculty and classified staff, with staggered three-year terms. Past chairs of the committee stay on for an additional year as the new chair becomes accustomed to the role and responsibilities. This additional service is particularly important to the success of LibQual^{+TM} in that administering the Survey can be complex. To counter survey fatigue in campus populations incentives and promotion have been used to increase participation. Sampling of the population has involved a greater degree of collaboration and cooperation with the campus Information Technology unit.

Assessment Committee data has provided evidence to support an increased emphasis on library instruction, including the creation of new faculty positions and the design and implementation of LIB credit-bearing courses; increased investment in online and digital monographic, periodical and reference resources; as well as furniture upgrades and remodeling project scheduled for completion in Fall 2008 (Blankenship and Fleming 2004). Ongoing investment in assessment activities indicates the value placed on knowing what our patrons want and expect from the Libraries. Information gathered by members of the Assessment Committee is disseminated throughout the Libraries, fostering a climate of communicative transparency and encouraging collaboration and consensus.

One of the more ambitious projects undertaken by the Assessment Committee in recent years was the 2006 implementation of a Library Summit (ARL Statistics & Service Quality Programs 2008). This event brought together nearly 80 individuals from all areas of campus for a luncheon, followed by what was essentially two large focus-group activities. Attendance was based on invitations from the president, provost, and dean and resulted in over 90 percent of the invitees attending. Plus, the president and provost opened the Summit with presentations on the importance of the Teaching Library to faculty and student success and to overall recruitment and retention.

Building on the comments and scores of the previous year's LibQual^{+TM} survey, the 2007 Summit sought input from students, faculty, and administrators across campus to help address areas of concern. Generating more than 75 flip-chart pages of suggestions, many of which have since been implemented, the event was a success on many levels. The Libraries are now seen as genuinely concerned about satisfying the needs of the campus community, dedicated to solving problems in original ways, and committed to building community through

directed collaboration. The Summit fostered relationships across campus, established the Libraries as a team player, and raised awareness of the libraries' teaching and learning role. Suggestions and recommendations made during the Summit were infused into library planning and budgeting, exemplifying the strength of evidence-based management.

The Assessment Committee approaches its work confident that recommendations will be taken seriously and be incorporated into the planning process fully aware of the importance of tracking changes in population, curriculum, and policies. For example, the most recent project, undertaken in spring 2008, used Appreciative Inquiry methods to determine how to better serve graduate distance students, a population that is overlooked by traditional methods of inquiry. The committee devised a way to obtain rich qualitative data from students pursuing graduate level degrees in Education and Nursing. This project was a direct result of the data garnered through LibQual^{+TM} surveys, and a reflection of the increasing importance of distance education, primarily of graduate students, at UNC.

THE CYCLE: PLANNING

Every fall, the results of the assessment process are incorporated into an annual *University of Northern Colorado Libraries Planning Goals Statement.* The purpose of the goals statement is to establish priorities for Libraries' activities and to facilitate the budgeting process, which is the next step in the evidence-based management cycle.

Since 2003, the *University Libraries Five-Year Plan* planning goals have mirrored the organizational structure of the *University Plan,* with sections for organization and personnel, collections, services, instruction, technology, facilities, assessment, and external support. The objectives under each section have come directly from the assessment process.

Beginning with 2008, the *University of Northern Colorado Libraries Planning Goals Statement* (University Libraries 2008) will mirror the *Academic Plan* (Academic Plan Steering Committee 2007), which was drafted by a steering committee of students, faculty, and administrators and adopted by the university's Board of Trustees in the spring of 2008. The goals of the *Academic Plan* emphasize exemplary teaching and learning, a superior faculty of teacher-scholars, transformational learning, dedication to the teaching and learning community, and effective partnering with the local community. The Libraries will draft a five-year plan reflecting goals set by the university's academic plan and will be based once again, on the outcomes of library assessment.

THE CYCLE: BUDGETING

Assessment results, as reflected in the planning goals, comprise the basis of the Libraries' annual budget request. The university process requires that all requests for base increases and one-time allocations be fully justified in terms of enhancements to the university community. As such, all requests from the Libraries are divided into two evidence-based narratives, recruitment and retention or additional evidence. Both cite the assessment process and subsequent results. The global narrative that accompanies the entire request is based on the Teaching Library concept, the redesigned role incorporated into that concept, and how affirmative responses to the request will enhance the teaching and learning process, and subsequently, faculty and student recruitment and retention.

Basing budget requests on assessment evidence and resultant planning goals has led to unprecedented funding for the Teaching Library. The materials budget has increased equal to or above the annual inflation every year since the Libraries implemented evidence-based management. In addition, allocations have been received for new positions and facility improvements.

THE CYCLE: ACTION

When the budgeting process concludes, with proposed new projects approved and funded, libraries personnel move quickly toward implementation. Not only does the "action" phase of evidence-based management provide proof that allocations are administered efficiently and effectively, it allows the Assessment Committee to analyze those actions in the next iteration of the assessment process.

The action phase also shows the entire university-community that the Libraries take the assessment process seriously and that their involvement does, indeed, result in change. This, in turn, stimulates the expansion of internal and external stakeholders who then emphasize, especially during the budget process, the importance of the Libraries being given priority for redirected and new dollars. This combination of evidence-based management and stakeholder development has resulted in, among other initiatives:

- Inflationary and curriculum-based increases to the materials budget
- Additional library faculty positions and a development officer
- Replacement of the circulation desk and remodeling of access services work space
- Expansion of community events
- Expansion of the Libraries' credit-generating curriculum and course-integrated instruction
- Refurbishment, including technology upgrades, of group-study rooms
- Refurbishment of general student-use space
- Embedded Library faculty in college-specific buildings
- Incorporation of instant messaging into reference/research instruction
- Improvement of scoping and resource management in the public access catalog

NOW WHAT?

Over the past five years, improved LibQual[+] scores have reflected the success of implemented projects and initiatives. The tailored research classes fill rapidly and generate waiting lists. "Library as place" scores have reflected improvement as well as raised expectations through refurbished soft furnishings and enhanced access to electrical outlets. Collections scores improved, as did circulation statistics, as a result of retaining book jackets, weeding aggressively, and improving stacks signage. Perhaps the most significant single response to assessment findings that increased visibility of the libraries across campus and into the larger community was the creation of an advancement committee, which coordinates participation in the Homecoming parade, job fairs and other "welcome to campus" events at the start of each semester, and tailgating parties complete with miniature footballs imprinted with library information.

University of Northern Colorado's University Libraries is committed to continued use of the assess-plan-budget-act cycle of evidence-based management. Future assessment projects will continue to monitor trends as well as target areas of concern and new initiatives. Balancing quantitative and qualitative methods of data collection in order to garner a deep understanding of the needs of changing populations will continue to guide the assessment committee. Using methods that generate solutions, rather than simply collecting complaints, will introduce new ideas into the planning stage of the management cycle, while methods that measure the success of implemented projects will provide the evidence needed by administration, in the libraries and at the campus and state levels.

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"Bridges for Babylon"
Cross-cultural Library Services in Germany and Beyond

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"Мостове за Вавилон"
Междукултурно библиотечно обслужване в Германия и извън нея

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ABSTRACT

This paper gives an example of how to involve students of Library and Information Science (LIS) in current library practice issues. The background is a course, so-called project seminar, offered during the winter term 2007/2008 at the Institute for Library and Information Science at Humboldt University in Berlin, Germany. The goal of this course was to publish a handbook on cross-cultural library services both in printed and electronic format with free open access. The students served as responsible, critical editors and have been in charge of the results. They gained a lot of experience not only with how to make a book but how to distribute their result by presenting them with articles (Wilke, 2008), poster presentations, and papers in both national and international venues. The project makes clear that students are highly motivated, not only to learn in a passive way, but also to bring in their own ideas and work hard to integrate them into a real, meaningful project. The goal of this paper is to encourage LIS teachers to enable LIS students to take part in creative projects as a model of "learning by doing".

Keywords: *Cross-cultural library services; LIS education; Teaching; Publishing; Open Access*

РЕЗЮМЕ

Този доклад посочва пример за запознаване на студентите по Библиотечно-информационни науки (БИН) с актуални проблеми от библиотечната практика. Задачата се осъществява в рамките на т.н. проектен семинар, проведен през зимния семестър на 2007/2008 г. в Института по библиотечно-информационни науки при Хумболдовия университет в Берлин, Германия. Целта на този семинар беше да се публикува ръководство по междукултурно библиотечно обслужване в печатен и електронен формат с безплатен свободен достъп. Студентите поеха ролята на отговорни, строги редактори и имаха грижата за резултатите. Те натрупаха богат опит не само по отношение на създаването на книга, но и на разпространяването на резултатите от проекта, представяйки ги в статии (Wilke, 2008), презентации на постери и доклади пред национални и международни конференции. Чрез проекта се доказа, че студентите са високо мотивирани не само да

бъдат обучавани пасивно, но и да участват в процеса със свои идеи и да работят упорито за интегрирането им в реален, смислен проект. Целта на този доклад е да окуражи преподавателите да дават възможност на студентите по БИН да вземат участие в съзидателни проекти като модел за "обучение чрез практика".

Ключови думи: междукултурно библиотечно обслужване; образование по БИН; преподаване; публикуване; свободен достъп

INTRODUCTION

The Institute for Library and Information Science at Humboldt-University in Berlin, Germany, offers every year a course on the topic "Turning an idea into a book" (Hauke et al., 2004, Hauke, 2007b). The target group is undergraduate students, now called Bachelor students. The goal of the course is to produce a comprehensive exhaustive volume on a subject relevant to library and information science. The articles of the volume should be written by authors in their area of expertise in library science and related fields. Students will learn through this methodology the basics of both publishing and project management. The product offers the students the chance to use their knowledge in a practical way.

PREVIOUS BOOK PROJECTS

This series of book project courses started in 2002 with an anthology on the German discussion about moving to international cataloguing rules (Hauke, 2002) – which was being discussed at that time nationally in Germany as well as in other countries. Some of the following projects were follow-ups of German-wide conferences, offered to professional librarians by the Free University of Berlin. They dealt with issues like "Volunteers in Public Libraries" (Hauke and Busch, 2003) or "Friends of Library Groups" (Hauke and Busch, 2005). There were also scientific publications like "Library Science – quo vadis?" (Hauke 2003), when the institute faced closure because of financial reductions. This volume brought together articles from authors from all over the world to make clear what Library Science is and why it should be kept as a discipline at the university level.

When the Institute's last director, Prof. Walther Umstätter, retired, the project idea was to organize a scholarly festschrift with contributions from his colleagues, students and scholarly friends (Hauke and Umlauf, 2006). The special success of this project was that we could convince a traditional LIS publishing house to allow – besides the classic printed version – an electronic version with free open access on the Humboldt University's edoc server. This experiment was successful, because more than 300 copies were sold – and a second edition started – even though there have been 8,600 hits and 8,233 downloads via Internet within the first 8 months after finishing the project.

"BRIDGES FOR BABYLON"

The last book project, "Brücken für Babylon", was based on an invitation by the Free University of Berlin in cooperation with the German Library Association's Section for Multicultural Library Services. In April 2007 they organized a conference titled "Multikulturelle Bibliotheksarbeit. Konzepte – Erfahrungen – Perspektiven" with speakers and participants not only from Germany but from Switzerland, Austria, Denmark, and the Netherlands and with a video conference with colleagues from the Toronto Public Library. The organizers invited the Humboldt's LIS institute to participate and to publish the conference papers as one of the already well known book projects.

When the course started in October 2007, the European Parliament and the member states of the European Union decided to designate 2008 as "European Year of Intercultural Dialogue." In addition, the United Nations proclaimed 2008 as "International Year of Languages". One may imagine our happiness about that good fortune! The students decided immediately to promote their current project as their special contribution to both the "European Year of Intercultural Dialogue" and the "International Year of Languages"!

The students understood that according to the rising number of languages, religions, ethnic and cultural backgrounds, intercultural dialogue has "an increasingly important role to play in fostering European identity and citizenship" (European Economic and Social Committee, n.d.)". Libraries are strongly concerned with these issues. They can play an active role as a social place, where people get in touch to each other and to the rich resources of the library. Through multifaceted activities and services groups of different ethnical backgrounds have the chance to enjoy their cultural heritage as well as to cultivate their mother-tongue and the contact to their home countries. Furthermore they can learn the language of the new country, thereby get access to the new society and find a way to participate in its cultural life.

THE PROCESS

Highly motivated through this new aspect, the students followed the given "road map" enthusiastically. This background would help to promote the project, to convince a publisher, to get financial support – if needed – and to draw more public attention on it.

But first they had to be very busy: Their job was not only to get in contact with the authors of the papers held in the conference, but to "peer review" the papers and bring them to a standard of high quality regarding the content, the expression, the spelling, the punctuation, the footnotes, the references, and an eye-catching heading, etc. All changes were made in consultation with the authors. Students of English language and literature translated the English written papers from other countries into German.

Meanwhile the students became more and more enthusiastic and convinced of the relevance of the theme and the project. They started to look around to find some other interesting authors in and outside Germany. They got in contact with speakers from similar conferences and asked them to allow publishing their papers in the projected publication. In that way, contributions from France, USA and Australia could be added.

To round up the handbook a bibliography with about 160 references, including relevant websites, was added. The chronological order made clear when, how and through whom this issue became relevant in Germany. Furthermore some official manifestations were looked for, such as IFLA guidelines etc. But instead of the new guidelines of the IFLA Library Services to Multicultural Populations Section, which were just "work in progress", two public manifestations of the German Library Association, regarding the "UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions" were included.

The final manuscript was composed of twenty two contributions from leading German, Canadian, Danish, Dutch, French, Swiss and American authors all of them experts in this field. An example of best practice from Australia was also included. This highlighted the subject under three headings (1) Basic principles (2) Concepts and (3) German and International Experiences.

To draw public attention to the project and convince librarians on the relevance of the content and the quality of the articles contained in the book, an Introduction written by a well-known and highly regarded public librarian was needed. The students – proud and happy with their project – did not hesitate to ask Claudia Lux, Director of the Berlin Main Public Library, current I.F.L.A. President and Honorary Professor at the Humboldt LIS Institute to write "The

Introduction." We all appreciate that Professor Claudia Lux agreed immediately to our request and the preface is indeed a fitting introduction to this publication.

One of the most difficult tasks was to find a publisher. The goal was not only to find an LIS professional publishing house, which would draw the attention of the profession on the publication. We also had to convince the publisher that in addition to a printed version of the conference booklet, that an electronic version would also be put up on the Humboldt University's own edoc Server, with free open access. The Humboldt University is one of the signatories of the "Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities", which hopes "to realize the vision of a global and accessible representation of knowledge … to gain the most benefit for science and society." As members of the Humboldt University, we felt we had to do our very best to make ensure a free accessible electronic version. At the same time we did not want to give up the idea of a printed version. The target group of the printed publication were librarians from small Public Libraries, who might not be that familiar with electronic publications and would prefer the printed version. We also accepted that not many people are eager to read a whole book on the computer screen, but would prefer to handle a book edition.

The students were able to convince the German Library Association to support the publication with a 2,000 Euro subsidy towards printing costs. Students then contacted nearly all German publishing houses, who specialize in library and information science and got, as expected, different answers. Some did not understand or did not accept the concept as outlined. Some asked for a financial subsidy, some would have allowed the publication of the free electronic version only after some time had passed. The final price was calculated between 30 € and 70 €. There was an offer to publish it as a volume of an LIS serial, but this publication is mainly subscribed to by university and other scholarly libraries, who were not the target group for any issues of concern to Public Libraries.

Finally an offer came in from the publisher of the Humboldt institute's last book project, the Bock + Herchen Verlag (Hauke & Umlauf, 2006; Hauke, 2007a; Hauke et al., 2007). The company accepted the concept of both a printed version and free open access to the electronic version (see Figure 1). A price of about 35 € was calculated, including free copies for all authors and students. The book was planned as a volume in the publisher's serial "Library and Society" (Bibliothek und Gesellschaft) – a perfect decision regarding the theme of multicultural library services.

Figure 1: Free open access to the electronic version

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To meet the format needs of this serial, a style sheet was developed. It was again hard work but very instructive for the students formatting all the author's papers. Beside the formatted needs for the printed version, they furthermore had to meet the needs of the electronic version, e. g. setting links from the citations to the references etc. Finally the book was finished in June 2008. At the same time the free open access on the Humboldt University's edoc server was announced.

PUBLICITY

A further aspect of the project was not only to publish the book, but to present the project's result to the public through mailing-lists, articles, poster presentations and conference papers. Unfortunately this happens outside term-time and does not bring any credits for the students but the experience was very useful and worthwhile!

The current project was first presented with a poster presentation at the German Library Association's annual conference in Mannheim, June 2008. The publisher had printed information flyers, designed by the students. At this conference some meetings regarding the issue of multicultural library services were successfully used to draw attention to the project and to distribute the flyers.

The German library journal *BuB, Forum Bibliothek und Information* published an article about the project, written by one of the students (Wilke, 2008). Meanwhile two students were accepted to present a paper at the 17th BOBCATSSS Symposium in Porto, Portugal, at the end of January 2009. A Poster Presentation proposal was also accepted by IFLA for the World Library and Information Congress 2008 in Québec City, Canada. One of the students emptied his savings book and managed to take part in the IFLA congress. Not only did he present his poster, but he met lots of people from all over the world, made new friends and made new professional contacts, which seem to be very relevant for his future career.

While this seems to sound very satisfying, there is a rather critical issue to discuss. As is happening all over Europe the Humboldt's LIS institute is currently moving from the traditional system of "Magister-Studium" to Bachelor and Master curricula. This new system is very strict regarding the students' presence and examinations after every course and does in fact not allow students to go abroad during the term for a conference, or to take time out for the preparation of conference papers, poster presentations, articles etc.

In the past Magister students have presented the earlier book projects at the IFLA conferences in Oslo (Hauke et al., 2005), in Seoul (Hauke and Mollenhauer, 2006) as well as at the annual German Library Association conferences (Hauke et al., 2004) and the BOBCATSSS symposia in Tallinn (Hauke et al., 2006) and Prague (Hauke et al., 2007), and have been extremely busy as organizers of the BOBCATSSS symposium in Zadar, Croatia 2008.

Those students, who took part in presenting the last book project were some of the last Magister students to be able to do so. Only one student took the chance to go abroad for the German Library Association Annual Conference 2008, but no student will be able to take part in the IFLA conference, the Sofia 2008 conference, or in the BOBCATSSS 2009 symposium. No Bachelor student will be able to give the presentation in the Humboldt's University LIS Institute's own weekly LIS colloquium. This new situation is not in the best interests of Bachelor students as this had worked so well in the past. A new and critical developing situation?

CONCLUSION

The "European Year of Intercultural Dialogue" as well as the "International Year of Languages" 2008 was a challenge for these students to learn more about multicultural library services and furthermore, to deliver their own, important contribution, which prepares them for their future professions as librarians.

"Globalization and the Management of Information Resources" is the theme of this Sofia 2008 conference. Our LIS students are most important resources for the future of libraries and information centres. We should take care, that globalization in LIS education, does not restrict the students' enthusiasm, but optimizes their chances to get experience also outside the university's classroom.

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Information Management in the Architecture and Construction Sector:
An Adaptive Response to Distributed Collaboration in an Electronic Environment

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Информационен мениджмънт в областта на архитектурата и строителството:
Приспособяване към разпределеното сътрудничество в електронна среда

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ABSTRACT

In this paper we will highlight recent developments in design-related information management in the professional fields of architecture and building construction and discuss roles for information professionals in this sector of industrial activity. Professional practice in the fields of architecture and construction has been forever altered by computers used to create, organize, and share design-related information in a distributed collaborative environment. Working in a digital medium has increased geographical reach of informational content and improved ease and speed of creation, dissemination, and diffusion of architectural and engineering documentary products between collaborators through the development of electronically mediated architectural information management. As a result, a new sector of activity associated with an expanding service-oriented information industry addressing the needs of the architecture, building engineering, and construction management industries has emerged. Specialized service providers offer not only archival services for centralizing and storing all of a project"s information on a secure server, but also information services such as electronic document processing, electronic document exchange, and electronic information management. We believe that this approach to design and construction management called *dematerialization* presents employment opportunities for LIS professionals specialized in documentation, information management, and information systems.

Keywords: *Information management; Dematerialization; Digital documentation; Architecture and building construction*

РЕЗЮМЕ

В този доклад ще насочим внимание към последните развития в информационния мениджмънт, свързан с проектирането в професионалната област на архитектурата и строителството и ще обсъдим ролята на информационните професионалисти в този сектор на промишлена дейност. Професионалната практика в областта на архитектурата и строителството завинаги е променена с използването на компютри за създаване, организиране и споделяне на информация, която е свързана с проектирането в среда на разпределено сътрудничество. Работата в дигитална преносна среда увеличи географския обхват на информационното съдържание и усъвършенства лесността и бързината на създаване и разпространяване на архитектурни и инженерни документални продукти между сътрудници с разработването на електронно преносим информационен мениджмънт. В резултат се появи нова област на дейност, свързана с разрастващата се, насочена към услуги информационна индустрия, насочена към потребностите на архитектурата, строителното инженерство и строителния мениджмънт. Доставчици на специализирани услуги предлагат не само архивни услуги за централизиране и съхраняване на безопасен сървър цялата информация за проекта, но и информационни услуги като електронна обработка на документи, електронен обмен на документи и електронен информационен мениджмънт. Ние вярваме, че този подход към управлението на проектирането и строителството, наречен *дематериализация*, представлява възможност за работа на професионалисти по библиотечно-информационни науки, които се специализират в областта на документацията, информационния мениджмънт и информационните системи.

Ключови думи: *информационен мениджмънт; дематериализация; дигитална документация; архитектура и сградостроителство*

INTRODUCTION

Architects produce and use information not only to solve technical problems but to facilitate a process of negotiation in which successive visions of a projected building must be represented and described. The conceptual sketches, physical models, functional diagrams, technical drawings, specifications, cost analyses, design briefs, schedules, and other texts and documents that architects produce are modes of representation that carry information about the architects" vision and support negotiation with their clients and communication with technical consultants, engineers, various authorities in charge of validating different steps of the process, contractors, and building companies involved in the design and construction of complex architectural projects. Computers are the modern tools architects, building consultants, and construction managers use to create, disseminate, organize, and access design-related information and to produce working and formal documents that are both digitally and physically archived. With the development of e-government, permits, building codes, and forms required as part of the administrative process of getting a building built are more and more made available electronically for form retrieval and submission of applications. Working in a digital environment means increased geographical reach of informational content and improved ease and speed of creation, dissemination, and diffusion of architectural documentary products between distributed collaborators and governmental administration services.

Collaborative design practices in the architectural community have been forever altered by the practice of electronically mediated architectural information management. A new sector of activity associated with an expanding service-oriented information industry addressing the needs of the architecture, building, and construction management industry has developed to provide the architecture and building industry not only archival services, centra-

lization and storage of a project‟s information on a secure server, but also information services such as electronic document processing, electronic document exchange, and electronic information management.

Why Should We Care?

For LIS scholars who study the history of information transfer and information management practices, the most radical innovations have been the invention of technologies that helped produce "durable recorded information" (Bates, 2005). Chronologically they were: the invention of writing (Goody & Watt, 1963; Goody, 1973; Ong, 1982, 1984, 1988); the phonetic alphabet (McLuhan, 1964b; Logan, 1986); the development of literacy (Goody, 1973, 1977; Goody & Watt, 1963; Ong, 1982, 1984, 1988); the invention of typography and Gutenberg‟s printing press (McLuhan, 1962; Eisenstein, 1979); the development of new modes of transportation and communication (Weller & Bawden, 2005) particularly in the age of discoveries and the age of industrialization; and finally the rapid development of new information and communication technologies (thereafter ICTs) in the 20th century (McLuhan, 1964a; and innumerable others since).

According to Bates, the "social purpose" of the information disciplines "seen as consisting of the ‚disciplines of the cultural record‟ and the information sciences" is the collection, organization, and dissemination of information (2007). The principal responsibilities of those disciplines are facilitating the management and transfer of information and ensuring that information resources are continuously available for effective use (2007). Due primarily to the diversity of high information technologies that have become available, the rates of information production and dissemination are exploding; concurrently, the types of "documentary products" existing in the "universe of documentation" (2007) are not only more numerous but more diversified. In the field of architecture, computers that were used initially to create documentary products (with computer aided drafting) are now allowing architects to explore the design of spaces and forms that they could not represent using centuries old drawing conventions. The new medium is unleashing architects‟ creativity by providing a sophisticated and powerful lens through which they can visualize their architectonic inventions and design buildings such as Frank Gehry‟s Guggenheim Museum in Bilbao that quite literally push the (architectural) envelope. The design and construction of such buildings, which challenge the senses of those who experience them, would not have been possible without the adoption by the architecture and construction communities of high-end ICTs that brought about an information transfer revolution.

The aim of this paper is to look at how critical aspects of information production, dissemination, and management in the architectural design and construction management processes have changed in the electronic environment in order to bring to light new opportunities for information professionals.

LITERATURE REVIEW

Our review of LIS literature shows that little research has been done on information transfer processes in the field of architecture. We identified only two existing studies; both were presented at the 2003 Association for Computer Machinery conference. The first study looks at the information seeking and sharing of designers (Poltrock, Grudin, Dumais, Fidel, Bruce, and Pejtersen, 2003); it is of some relevance inasmuch as the authors look at information behavior of designers in general. The second study proposes a conceptual framework for the investigation of artifacts and coordinative practices in architectural design work (Schmidt & Wagner, 2003); it is very useful for understanding architects‟ collaborative information creation, dissemination and overall management through the design process and the construction phase. Based on five years of fieldwork, Schmidt and Wagner‟s study focuses on

ordering systems required for the organization of distributed collections of documents used by "distributed actors" who work collaboratively in the context of a large architecture firm (p. 274). These researchers" work is eminently relevant to the study of information management ordering systems in the architecture community. It is an excellent reference article that describes the work procedures of architects in a large firm, and how they have devised classification strategies to keep large collections of artifacts produced or gathered for single design projects at once organized, accessible, and usable by a large number of actors inside and outside the firm.

It is hoped that our paper will contribute to a better understanding of information transfer processes and information management practices in the architecture community by describing recent technological advances in the creation, dissemination, and diffusion of the information products by architects and their collaborators in the design-build process.

CONCEPTUAL FRAMEWORK

Because of LIS" interdisciplinary status, it is a field where vocabularies from different disciplines coalesce but where definitions of individual terms still require to be made explicit. Therefore, we find it necessary to look at the definitions of the terms "information", "document", and "information transfer" that will frame the ensuing discussion.

Information

We will focus here on the LIS authors, and the definitions of information they propose, that have had the most influence on our understanding of information phenomena in relationship to the information management and information transfer activities in architectural design and construction processes.

Buckland (1991) showed that definitions of information fall in three categories that correspond to different approaches toward information in LIS: 1) "information-as-process"; 2) "information-as-knowledge", which is intangible and needs to be physically expressed or represented, and 3) "information as thing", which is the physical expression or embodiment of "information-as-knowledge." For Buckland, "whatever information storage and retrieval systems store and retrieve is necessarily information as thing" (1991); this leads him to ask the pertinent questions "what is informative?" (1991) and "what is a document?" (1997). It is with the above questions in mind, Buckland"s concept of "information-as-thing", and his definition of "document" that one must understand what we will call in this paper architecture"s "information products" or alternatively using Bates" terminology (2005, 2007) "information objects" or "documentary products".

Bates" approach to information is all inclusive; for her, "almost anything existing in the universe … can be experienced as information" (2006). She defines information as an objectively existing phenomenon that is observable, constructed, stored, and acted upon by living beings in subjective ways (2006). Bates also provides definitions of forms of *embedded* and *recorded* information which constitute for us useful references.

Embedded information is "enduring information created or altered by the actions of … people in the world" (Bates, 2006). Man-made landscaping, buildings, architectonic elements, or sculptural elements are examples of embedded information in our architectural environment. "[It] is generally not left by its creators to be informative, but rather is informative as an incidental consequence of the activities and skills of the people" (2006). This characteristic of embedded information is critical; indeed, from this perspective, existing buildings are carriers of embedded information - for the architects, engineers, builders, emergency response personnel, and for any one of us experiencing those buildings.

Recorded information is "communicatory or memorial information preserved in a durable medium"; it is a human product with a communicatory intent (Bates, 2006). Architectural diagrams, sketches, plans and models of a building, and specifications are some examples of recorded information that are what we will call in this paper architectural "information products".

Information Transfer

The term "information transfer" means different things to different LIS researchers. From the vantage point of the Documentation movement and the "document tradition" of Information Science (IS) "information transfer" corresponds to the process of managing documents. It involves the activities of LIS professionals in regard to the life-cycle of documents: "collecting (selecting), preserving, organizing (arranging), representing (describing), selecting (retrieving), reproducing (copying), interpreting, translating, summarizing, and disseminating documents" (Buckland, 1999). To this specialized view of information transfer as document management, one can contrast Greer"s all inclusive definition of information transfer as "that part of the communication process wherein the message is recorded and received by one or more individuals" (cited in Achleitner & Grover, 1988). Both concepts are useful to the understanding of information transfer through the design build process.

To set up the conceptual framework for the present study we have reviewed existing LIS definitions of "information" "information transfer, and "information management". In this paper, we consider information as that which imparts or gives knowledge (Day, 2001); it is also information as thing (Buckland, 1991), physically expressed, represented, or embodied, that will be discussed in relationship to the communicative activities of professionals and scholars in the field of architecture. Information transfer is to be understood in a general non-restrictive way. To describe aspects of information transfer, we will simply use to the generally accepted meaning of the terms information creation, dissemination, diffusion, organization, and preservation; we do not consider them to be locked into a cycle of differentiated steps. In this context, information management is that part of information transfer which deals with dissemination, diffusion, organization, and preservation.

COMPUTERS, THE ARCHITECTURE AND CONSTRUCTION SECTOR, AND INFORMATION MANAGEMENT

Before discussing information management in the architecture and construction sector, it is useful to describe first the types of information that architects and their collaborators produce as part of the design-build process.

What Constitutes Information in the Architecture and Construction Sector?

Architects use and produce information not only to solve technical problems but to facilitate a process in which successive visions of a not-yet-built building must be represented and described for the architects themselves and for others; these visions ultimately become an inhabited reality (Piotrowski, 2001). For Piotrowski, an architecture history and theory scholar, designing architecture is a "way of knowing resulting from a . . . process of conceptual negotiations" (p. 40). That knowledge is made manifest in documents that support oral communication; "everything that an architect produces –conceptual sketches, physical models, functional diagrams, technical drawings, cost . . . [analyses], and verbal explanations", all these modes of representation carry information about the architect"s vision and support the process of negotiation during the design phase (p. 41). Most of these documentary products have been in existence as long as the profession itself going back to the Antiquity. Historical technological developments have meant improved ease of creation, ease and speed of dissemination and diffusion, easier collaboration with other actors, and increased geographical reach of informational content.

Architecture, Computers, and Information Management in the Information Age

It is generally thought that the information age begins in the 1970s. It took 20 years for architecture professionals to embrace and integrate the information and communication technologies (ICTs) that had been the subject of theoretical discussions among architecture scholars right from the beginning. The development of Computer Aided Architectural Design (CAAD), also called Computer Aided Design or Computer Aided Drafting (CAD) is a technological innovation with historical roots in the 1963 thesis of Ivan Sutherland at MIT (Schmitt, 1999). The term CAD system is most often used to designate computer hardware and software that allows both design and drafting of plans, and to which many more capabilities continue to be incorporated for purposes of design and construction management.

According to Schmitt (1999, p. 10), "the design methods movement took the first steps to formalize architectural information." The movement started in Britain in the early 1960s and its focus was the development of: a) new means of design and b) methods capable of dealing with the problem of designing interfaces between humans and high technology equipment (Mitchell, 1993, p. 38). The aim was to get away from traditional design-by-drawing methods performed by a single individual –a "Renaissance man" who could synthesize all the information associated with a design problem– and replace them by *collaborative methods* focusing on the integration of information that would be *rationally* created during the design process (p. 38). For the architecture community, this movement was a response to the necessity of dealing with the increasing complexity of design projects due to a) the quantity and difficulty of problems to be solved, b) the growing body of information needing to be gathered, consulted, organized, and produced to solve these problems, and c) the need to bring into the design process a larger number of specialists and consultants with expertise in solving a variety of "sub-problems". Architects began to look at computers for supporting or handling design tasks.

Initially, and before the 1980s, large architecture and engineering firms that could afford computers (like Skidmore Owings and Merrill of Chicago in the US) were able to develop their own CAAD software. Three dimensional modeling, rendering, animation, and multimedia presentations only became affordable for the rest of the architecture community in the 1990s (Schmitt, 1999, p. 7). Affordability was the main factor in the wholesale adoption of computers supporting CAAD and architectural data and information management in architectural practice and construction management.

ICTs and Changing Information Practices in the Architecture Community

The importance of CAD as a medium was recognized early on in the field of architecture by the association ACADIA (the Association for Computer Aided Design in Architecture, http://www.acadia.org/) which was formed in 1981 "for the purpose of facilitating communication and critical thinking regarding the use of computers in architecture, planning, and building science"(Bermudez & Klinger, 2003, p.1). In a 2003 White Paper edited by Bermudez and Klinger, Ganapathy Mahalingam summarizes the evolution of architects" engagement with computer technology:

> In the early stages … architects approached the technology as an assistive technology that would enhance the practice of architecture . . . .

> The key in the development of digital tools … has been the facility with which the various tasks involved in … practice … have been represented, enabled or enhanced using computer technology. Drawing, modeling, performance simulation, design collaboration, construction management and building fabrication are now routinely performed using computer-based technology. (Bermudez & Klinger, 2003, p. 3)

It is now obvious that computers have dramatically improved the creation, organization, dissemination, and management of the formidable amount of information that is attached

to the design-build process. An interdisciplinary area of research focusing on the design and construction aspect of this process has emerged with research topics intersecting architecture, information technology, CAD, construction science, and civil engineering; that "young field of research" (Björk, 1999) is called "Information Technology in Construction" (ITC). It has its dedicated journals (*International Journal of Computer Integrated Design and Construction*, and *Journal of Information Technology in Construction, also available online*) and its programs of conferences.

The use of information technologies for information transfer is in the process of changing the culture of the architecture community. Its modes of cognition are slowly being transformed, particularly through interactive three dimensional (3D) modeling. Its modes of communication have changed, and collaborative partnerships are being transformed by the ease of circulating information back and forth between all the actors of the design process. Design, practice, fabrication, and construction have become in some architectural firms networked activities and "the new measures of architecture are connectivity and speed" (Senagala in Bermudez & Klinger, 2003, p.7). We will now discuss changes that are taking place in collaborative design practice; and finish this next section by looking at transformations in the modes of cognition of architects, their consultants, and their clients.

Three Dimensional Modeling and Spatial (re)Cognition

At first CAD systems were used to construct 3D models from the plans, elevations and sections that had been drawn in CAD. At present the creation and manipulation of 3D models do not require the architect to first "think" the project in terms of orthogonal projections, one could say that the metaphor for computer aided 3D modeling is that of sculpting. The electronically created model is not a mere representation extracted from of a two dimensional design, it has become another design tool. In comparison to its cardboard, paper, clay, or balsa wood ancestor the 3D digital model promises architects to push further the limits of their imagination and creativity and explore spatial territories left unchartered by the physical limitations of traditional model building materials. While the sensual experience of manipulating physical objects is lost, a new poetic experience is possible based on imagery and, further along in the design process, on spatial exploration in a *virtually real* environment. For the architect it becomes easier to share his/her visions with clients who have become accustomed to digital media and acclimated to virtual reality, and are therefore cognitively prepared to "visit" their virtual building. In effect, with the help of technology, architects and engineering consultants are now able to develop sophisticated *building product models* (also called building information models or BIM) which "may be seen as digital information [repositories] describing the objects making up the building, [and] capturing the form, behavior and relationships of the parts and assemblies within the building" (Eastman & Siabiris, 1995; and Eastman, 1999; both quoted in Pham & Dawson, 2003). Building information models are offering new possibilities not only during the planning, design and construction phases of a building but as an important tool for remodeling at a later date, and for maintenance and facilities management throughout the life of a building up until demolition time. Another excellent potential of such building information depositories, should they be readily available for consulting, is their usefulness for devising strategies for emergency response in situations such as fires or destruction resulting from accidents or acts of terrorism.

Electronically Mediated Information Management in Architectural Practice

We will now look more closely at how collaborative design practices in the architectural community have been forever altered by the introduction of the computer into the design process. We will briefly summarize the process described by Schmidt & Wagner (2003) at the 2003 International ACM SIGGROUP Conference on Supporting Group Work. A typical large building project engages architects and many external actors: a client and sometimes future users of the building or an interest group, technical consultants, engineers, various authorities

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in charge of validating different steps of the process, contractors, and building companies. Input from these participants to a project is required throughout the design process and the construction phase.

The architectural firm is in charge of coordinating the various stages of that process and is engaged in recurrent negotiations with the client and various consultants. Each stage of the process results in the creation of a set of CAD plans that are submitted for approval, for authorizations, or for input, to various actors in the process.

Architects create a set of central CAD plans; each floor plan, elevation, or section is drafted electronically in layers, and each layer is inventoried as part of the project"s information database. Collaborating consultants extract the layers that are necessary for their work, electronically add on to the drawings their own information, and send their files back to the architects" office. The new plans will be incorporated into the central CAD document. Details, specifications, and forms can be linked to the plans; they are either electronically produced in the architects" office, produced by consultants (details and specifications e.g.), or downloaded from manufacturers" websites (drawing of components and their specifications e.g.) or government websites (forms e.g.). These exchanges of documents and transfer of information can now occur electronically thanks to the development of industry standards that allow for interoperability among software applications (for a review of the development of Industry Foundation Classes, or IFC, see Bazjanac & Crawley, 1997). Using the capabilities of ICTs, the replacement by electronic information management practices of information transactions supported by paper-based documents produced for distribution, revision, calls for bids, etc. is called dematerialization. For example, with the development of e-government at all levels in France, like in other European countries, the administration of bids and contract documents for public construction projects is now largely handled electronically.

In the wake of such changes in project management practices, specialized service providers have emerged on the market that offer centralization and storage of all of a project"s information on a secure server; these companies can also provide additional information services such as electronic document processing, electronic document exchange, and electronic information management. An example of this is the service *e-Project BTP* (see http://www.cyber-chantier.com) proposed by FORMI-SA in France, which offers dematerialized information transfer and information management services to the architecture and construction industry. Another example of a more sophisticated information transfer and information management service is *Mezzoteam* by PROSYS (see http://www.prosys.fr and *http://www.prosys.fr/section.php?lang=en&s=1&ss=1*), which combines electronic information management with consulting and information services complimented by the information resources of Group Moniteur (see http://www.groupemoniteur.fr), the leading French trade press group specialized in publications for the architecture, construction, environmental engineering, and local government sectors. Clients of PROSYS not only have access to online reference material but can use the online and telephone reference services of the staff of *Le Moniteur*"s documentation department.

In contrast, architecture and construction document management in the US does not seem to be outsourced. Architectural firms tend to develop individual solutions for document and information management. A number of document management software bundles for the architecture, engineering, and construction industry are readily available for purchase and construction management is still the job of contractors. The European services mentioned above are exponents of a developing service-oriented information industry which represents an important share of the market linked to the economy of the building and construction management industries. That sector of activity offers new opportunities for LIS professionals, specifically for those specialized in information management and information systems.

NEW PROFESSIONAL ROLES FOR INFORMATION PROFESSIONALS

According to Penttilä (2006), a professor at the Helsinki University of Technology (Finland), new ICTs have changed the profile of the profession of architect. New professional roles have emerged in professional practice for "ICT leaders, coordinators, and managers" in response to the adoption of the BIM as a representation and digital framework for information management over the lifespan of a building in the "design-contruction-maintenance chain" (Penttilä & Weck, 2007). For architects and engineers, the BIM is primarily a design tool and an archival information system for architectural documentary products. However, the BIM can potentially incorporate not only design and technical information, but also the minutes of meetings, correspondence, site visit reports, construction updates, as well as digital photography or video of the construction site and all the administrative and legal information related to a design project. The information management task, even electronically mediated is enormous and while input is both distributed and collaborative for efficiency and reliability management must coordinated and centralized.

It would seem that information professionals, who are often used as documentalists in large architecture firms to research information sources for architectural precedents, technical aspects of design and construction, as well as social, environmental or legal facets of a project, are well equipped to incorporate design teams to support BIM information coordination and information management task. While Penttilä (2006) suggests incorporating information management training to the list of curricular requirements in architecture programs, and to continuing education programs for architects, we suggest that another alternative is to incorporate architectural information management courses for specialization in LIS programs. The customary offerings of certificates in areas of specialization for library and information services to the health and law professions offer a rationale for the addition of a certificate for specialization in library and information services for the architecture, engineering, and construction professions. LIS programs could collaborate with architecture, architectural engineering, and construction management departments to develop an interdisciplinary curriculum for such a certificate that could be targeted to both architecture and LIS students. The existence of such a specialization would strengthen the employment prospects of information professionals in large architecture, architectural engineering, and construction firms and would offer small architectural offices the opportunity to hire architects with a double competency thus creating more employment opportunities rather than competition for graduates of such interdisciplinary certificates. It would also facilitate collaboration between architects and information professionals by socializing them together during their formative years.

CONCLUSION

In this paper we have sought to explicate the effects of major innovations in information technologies on the creation and dissemination of architectural information in order to point LIS in the direction of new areas of enquiry and professional practice.

In the architecture and construction professional community, information transfer involves the increasing use of computers and CAD technology in the creation of information associated with the design process as well as the use of ICT and internet based services for information dissemination through all the phases of design and construction and increasingly through the life cycle of the building. It is perhaps the coordination of information transfer during construction management that will engage LIS professionals and scholars both. We see new directions for research opening in the area of information behavior in professional context and of information practices of networked professional communities. We discern as well exciting possibilities for research in human computer interaction related to the creation of information as part of design activities that include the creation of architectonic objects in virtual

reality, and the potential for research on the interface between humans and virtual information universes.

A new sector of activity associated with an expanding service-oriented information industry addressing the needs of the architecture, building, and construction management professional community is in full expansion in Europe; there is a place for information professionals in the provision of such services as information management, but also documentation research, data mining, information retrieval, and reference services. Some players in that market are showing entrepreneurship and expanding their geographic coverage; that should offer new international opportunities for LIS professionals specialized in documentation, information management and information systems. It will be interesting to see if European-style integrated services for information management and construction management through the life-cycle of the building will flourish in the US in the future. At present, research communities outside LIS in Northern European countries, England, and Australia are responsible for the majority of the literature on this topic; it is perhaps because of the will at the governmental level to support such research in the service of a dynamic and economically crucial industrial sector.

We hope that, by providing a picture of contemporary information creation and dissemination practices in the architecture community, we have contributed to answering Bates call for descriptive accounts of information transfer practices in interdisciplinary fields (1996). We also hope that our work will spark more interest in interdisciplinary research work in the area of distributed collaboration in electronic information management in the architecture and construction sector. We wish to encourage others to follow some of the leads for needed research we are proposing in this paper.

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Slavic and East European Studies in German "Virtual Libraries"

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Славянски и източноевропейски изследвания в германските „виртуални библиотеки"

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ABSTRACT

Germany's Library System is relatively complicated. There are three libraries functioning as National Libraries. Highly specialized information and literature is provided by approximately 30 University and State Libraries who take part in the nationwide "special subject collections system" funded by the *German Research Foundation* (DFG) since 1949. The purpose of this system is to guarantee access to specialized literature to all researchers and academics in Germany. Interlibrary loan and document delivery services were developed and used for this purpose in the 20th century. Since 1998 the German Research Foundation has been funding the establishment of specialized "Digital" or "Virtual libraries" based on the same system. These "Virtual libraries" ("Virtuelle Fachbilbiotheken") provide fast and simultaneous access to all types of academically relevant materials – printed books and scholarly journals, digitized books and manuscripts, born digital materials, internet resources, etc. The *Virtual Library Eastern Europe / Virtuelle Fachbibliothek Osteuropa* (*ViFaOst*) is one of the largest and most distinguished of these "Digital Libraries." It has evolved since 2000 as a co-operative project of the Bavarian State Library with several scientific institutions throughout Germany. This paper will present the actual content and services and will especially focus on the integration of digital publications in the "Open Access – Repository" of the *ViFaOst,* which is currently being developed. Other "Virtual libraries" with relevant East European materials are the *Slavistik-Portal (Slavic Literature and Languages)*, *Clio-online (History)*, *Ireon (Gateway to International Relations and Area Studies)* etc. These and other Digital Libraries are united in "vascoda," the "German Digital Library."

Keywords: *Slavic and East European Studies; Virtual libraries; Digitization; Open access*

РЕЗЮМЕ

Библиотечната система на Германия е относително сложна. Три библиотеки функционират като национални. Високоспециализираната информация и литература се предоставя от около 30 университетски и федерални библиотеки, които участват в националната „система от специализирани отраслови фондове", която от 1949 г. се финансира от *Германската фондация за научни изследвания* (DFG). Задачата на тази система е да осигури достъп до специализирана литература на всички изследователи и универ-

ситетски преподаватели в Германия. За тази цел през 20-ти век са развити междубиблиотечно заемане и служби за доставка на документи. От 1998 г. Германската фондация за научни изследвания финансира организирането на специализирани „дигитални" или „виртуални" библиотеки, на основата на същата система. Тези "виртуални библиотеки" ("Virtuelle Fachbilbiotheken") осигуряват бърз и непрекъснат достъп до всички видове академични релевантни материали – печатни книги и научни списания, дигитализирани книги и ръкописи, материали създадени като дигитални, интернет ресурси и др. *Виртуалната библиотека Източна Еврона / Virtuelle Fachbibliothek Osteuropa* (*ViFaOst*) е една от най-големите и най-ценната измежду тези „дигитални библиотеки". Тя се развива от 2000 г. като кооперисан проект на Баварската държавна библиотека и няколко научни институции от цяла Германия. Този доклад ще представи актуалното съдържание и услуги и ще се спре по-специално на интегринането на дигитални публикации в «Репозиториума със свободен достъп» на *ViFaOst,* който се изгражда в момента. Други «виртуални библиотеки» с релевантни източноевропейски материали са *Slavistik-Portal (Славянска литература и езици), Clio-online (История), Ireon (Портал за международни отношения и регонални изследвания)* и др. Тези и други дигитални библиотеки са обединени в германската дигитална библиотека "vascoda".

Ключови думи: *славянски и източноевропейски изследвания; виртуални библиотеки;дигитализация; свободен достъп*

INTRODUCTION

The Republic of Germany is organized in sixteen Federal States with about 12,000 public libraries and 2,000 general research and specialized libraries (Lux, 2003). The *German National Library* (Deutsche Nationalbilbiothek) is not a National library in the sense we know from other, especially Eastern European, countries. It was founded at the beginning of the 20[th] century and its collections comprise mainly German literature and "Germanica" (foreign publications in German, translations from German, publications about Germany) of the past and present centuries. It neither owns collections of old German imprints nor does it collect foreign literature. For these reasons the two big German State libraries – the Berlin State Library ("Staatsbibliothek zu Berlin – Preußischer Kulturbesitz") and the Bavarian State Library ("Bayerische Staatsbibiothek"), together with the "Deutsche Nationalbibliothek" which is situated in Leipzig, Frankfurt and Berlin, officially function as a "Virtual National Library." Both State libraries also take part in the nationwide "special subject collections system" ("Sondersammmelgebietssystem") funded by the *German Research Foundation* (DFG) since 1949. The DFG is the central public funding organization for academic research in Germany. Its mandate is to serve science and the arts by supporting research projects, by promoting cooperation between researchers, and by forging collaboration between German academic science, industry and partners in foreign countries. In order to ensure the quality of information infrastructure necessary for successful research the DFG also supports German academic Libraries (not public libraries) and archives. The objective of the funding-program "Scientific libraries an information system" is to guarantee access to specialized literature to all researchers and academics in Germany on an international level. More than 30 University and State

Libraries participate in this system by collecting highly specialized information and literature from throughout the world (Brahms, 2001).

SPECIAL SUBJECT COLLECTIONS OF THE BAVARIAN STATE LIBRARY: THE EASTERN EUROPEAN COLLECTION

After the Second World War in which important German libraries were destroyed or "lost" together with the former eastern territories, the Bavarian State Library was the largest and most important German library. On the basis of its historical collections it was assigned a wide range of "special subject collections" by the *German Research Foundation*:

- Ancient, Greek and Roman history and philology, Byzantium

- General and world history

- German, Austrian and Swiss history and politics

- History and politics of France and Italy

- Modern Greece

- Countries of Eastern Europe (history, politics, information sciences, education, literature and languages, folk culture etc.)

- Music

Especially concerning the countries of Eastern Europe, the system of special subject collections was very much complicated after the German Reunion. In 1998, libraries in Eastern Germany were assigned special collections previously located at the Bavarian State Library (and other West German libraries). The special collection of Slavic languages, literature and folk-culture was assigned to Berlin State Library, the collection of materials about the Baltic States to Greifswald University library and Romanian and Albanian language and literature as well as modern Greece were assigned to Jena University Library.

This of course neither means that the Bavarian State Library's holdings were moved nor that it stopped collecting literature in these fields – it is mainly a question of responsibility in the national library system and of funding. Currently this system is again changing; the special collection field of Romanian and Albanian philology as well as Modern Greece will be moved back to the Bavarian State Library in 2009.

DFG SPECIAL SUBJECT COLLECTIONS: EASTERN EUROPE IN GERMANY (2009)

To give a rough idea of the size of such a special collection some facts and figures: The East European collection of the Bavarian State Library comprises about one million volumes, 5,000 current print and electronic journals, 30,000 maps, 200 databases, a large microfilm collection of archival materials as well as some precious manuscripts and incunabula. The new acquisitions amount to approximately 20,000 monograph volumes a year of which about 15,000 volumes belong to the special subject collection funded by the DFG.

	History, govern-ment, politics, anthro-pology, geography	Info.sciences, educa-tion	Language and literature, folk-culture	Music	Art	Religion	Philosophy	Social Sciences	Law
Russia	**Bavarian** **State** **Library**		**Berlin** **State** **Library** **(1949-1992 BSB)**		State and University Library Dresden / Zentralinstitut für Kunstgeschichte München a.o.	University Library Tübingen	University Library Erlangen	University Library Cologne ZBW Kiel a.o.	**Berlin Library**
Ukraine									
Belorussia									
Poland									
Czech Rep.									
Slovak Republic									
Slovenia									
Croatia									
Serbia									
Bosnia-Hercegovina									
Montenegro									
Macedonia									
Bulgaria									
Kosovo									
Romania									
Albania									
Moldova									
Greece									
Hungary	**SUB Göttingen** **University Library Greifswald** **(1949-1997 BSB)**								
Baltic States									

Figure 1: Holdings in German libraries

As already said the materials collected in the framework of the "special collections system" are to be accessible throughout Germany; that is all participating libraries commit themselves to collect them as completely as possible and to deliver these materials to any other German Library, whenever needed. Interlibrary loan and document delivery services such as SUBITO (http://www.subito-doc.de) were developed and used for this purpose in the 20[th] century.

As this national system of special collections was developed after World War II, its scope was exclusively printed and microfilm-materials. The forthcoming electronic media have raised new technical and licensing problems for the engaged libraries. Nowadays supra-regional licences (national licenses, pay-per-use options) try to guarantee nationwide access of electronic media. The Bavarian State Library aims at establishing open access for as many materials as possible throughout Germany. If this cannot be established, other methods for su-pra-regional accessibility are developed. Currently, for example, the Bavarian State Library is working on a technical and licensing solution for interlibrary loan of e-books.

SUBJECT ORIENTED VIRTUAL LIBRARIES

This system of special collections on the one hand functions extremely well, but on the other hand its notion is not very widespread in German Universities so that potential users often do not find what they need. This was the result of a study carried out for the *German Research Foundation* in 2003 (see Endnote 1). Consequently the *German Research Foundation* and the participating libraries have been working very hard during the last years on optimizing freely accessible information and user-friendly long-term information infrastructures based on the system of special collections.

One of the methods chosen is the building of specialized "digital" or "subject oriented virtual libraries." These "virtual libraries" ("virtuelle Fachbilbiotheken") are to provide fast and simultaneous access to all types of academically relevant materials – printed books and scholarly journals, digitized books and manuscripts, born digital materials, internet resources etc.

Currently there are more than 30 of such "virtual libraries" pertaining to all disciplines of science: Humanities, Social Sciences, Natural and Technical Sciences. Typical elements of these Virtual libraries are a catalogue or "guide" of internet resources, databases of journal articles and library catalogues. A meta-search engine offers simultaneous search in these information resources. Availability checks lead users as fast as possible from their search to the document itself – when full-texts are available directly to the document, otherwise to document delivery services and interlibrary loan.

VIRTUAL LIBRARY EASTERN EUROPE

One of the oldest and most developed German Virtual libraries is the Virtual Library Eastern Europe (http://www.vifaost.de), a joint project of the Bavarian State Library with the Department for East and South East European History of the Ludwig-Maximilians-University in Munich, the Institute for Eastern European Studies in Regensburg and the Herder-Institute in Marburg (see Figure 1). It was funded by the German Research Foundation for five years (2002-2007).

As its name implies the Virtual Library Eastern Europe covers a wide range of subject areas pertaining to Eastern Europe: history, politics and society, education, languages and literature, regional geography, information sciences, fine arts and music. Its regional scope extends from Albania and Greece to the Far East of Russia.

On the first level the Virtual Library Eastern Europe consists of numerous technically independent databases, most of which are hosted by the Bavarian State Library and the project partners mentioned. Principally it is open for cooperation with any institution worldwide that offers relevant materials. These databases are grouped in so called "modules": The first module consists of the library catalogues of the most important German libraries for Eastern European Studies – the electronic catalogue of the Bavarian State Library which contains all titles from 1600 up to today, the OPAC of the Berlin State library which contains most of its East European Collection – as well as specialized catalogues such as the "Verbundkatalog Östliches Europa" (http://212.23.140.172/voe/), containing about 600,000 titles on the history and culture of Central Eastern Europe. In the near future a number of East European Library Catalogues will be included in this module.

The second module serves as an instrument for the information on current literature: it is a database of new acquisitions of the Bavarian State library and of the Zentralinstitut für

Kunstgeschichte with its special collection on East European Art. In 2009 the new acquisitions of the State and University Library Göttingen on Hungary will be implemented.
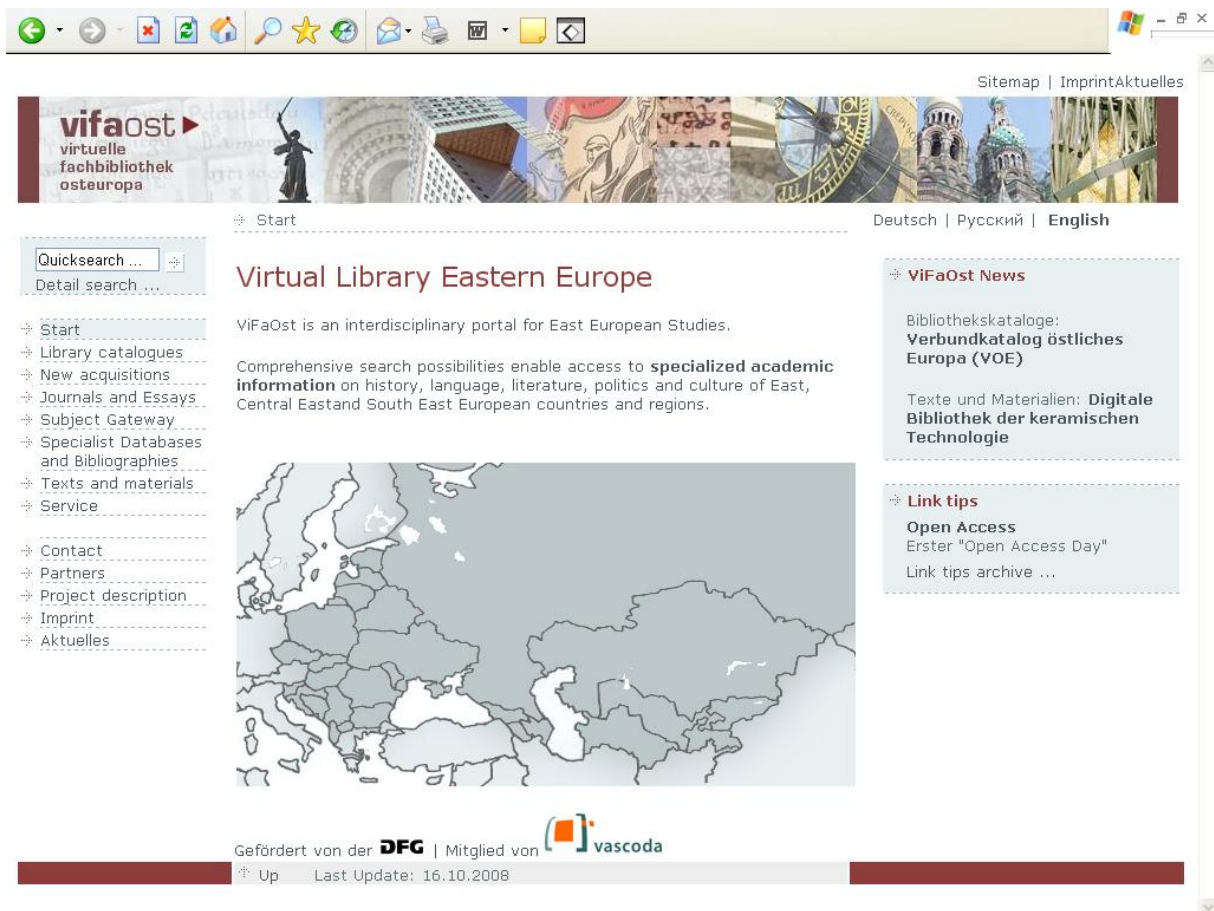
Figure 1: vifaost (www.vifaost.de)

The third module contains an overview of 800 electronic journals in the field of East European Studies with information on their accessibility, several article databases as well as three important journals which were digitized in the Bavarian State Library. The fourth module, the "Subject Gateway" is a catalogue of internet resources containing approximately 10,000 items – regular "websites" as well as pdf-documents, digitized maps, etc. The fifth module "Specialist Databases and Bibliographies" contains an overview of around 400 data-bases related to East European Studies with information on their accessibility, as well as several freely accessible bibliographies. The sixth module "Texts and Materials" is the one which is currently undergoing the most changes. It contains both born digital materials – among others a Digital Manual of Eastern European History and Culture, a database of digitized documents on Soviet and Russian History for the purpose of teaching (100(0) Schlüsseldokumente der russischen und sowjetischen Geschichte (1917 – 1991)), and retrospectively digitized materials. As more and more library materials are being digitized, not all of them can be separately listed on the virtual library's web-pages. Consequently only larger and more important projects are listed here; individual full texts are either accessible via the library catalogue if hosted and long-term archived at the Bavarian State Library, or, in case they are not long-term archived and freely available on the Internet, they are catalogued in the Subject Gateway. Given that more and more authors are willing to publish on the basis of open access the Bavarian State Library together with its partners is preparing a Digital Repository for materials on Eastern Europe which will substitute the module "texts and materials". The main aim of this repository is to reflect and give immediate and free access to the academic output of East European Studies in the German speaking countries. Naturally it will furthermore integrate

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materials from other countries whenever possible either directly or by cooperation with similar projects.

The last module aims at collecting and offering up-to-date materials on East-European scholarship in Germany and its neighbor countries. A database of doctoral theses and research communicates projects currently in progress; a directory of scholars informs about historians who specialize in Eastern European history; and a directory of conferences and workshops is currently being reorganized.

As Figure 2 shows, the mentioned databases pertaining to Eastern Europe at a second level are integrated in a Content Management System (Typo3) which is maintained at the Bavarian State Library but to which all partners have access in order to update their webpages. The Website is at the moment trilingual Russian – German – English. A version in Czech is being worked on.
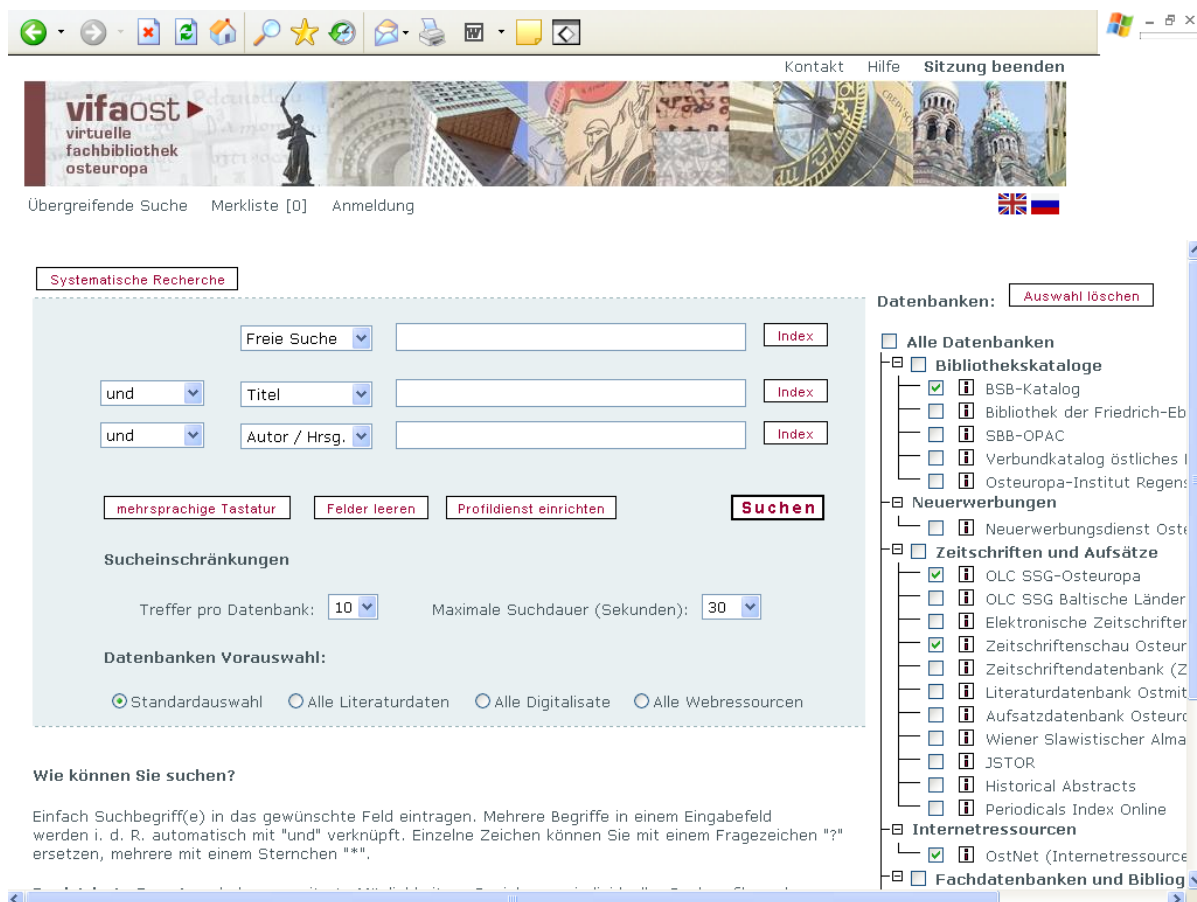
Figure 2: Databases pertaining to Eastern Europe

The third level of the Virtual Library is a meta-search engine with individualized services (Elektra by OCLC-Pica). It allows simultaneous search and availability checks in almost all the mentioned databases and others not expressively mentioned. This meta-search will be replaced or expanded by a search engine using the FAST-technology in the course of the next two years. One of the momentarily unsolved problems of the meta-search is that there is no automatic transliteration, which means that simultaneous search in databases using Cyrillic and Latin script with only one script is possible (virtual keyboards for all East European languages are implemented), but will bring results only in one type of database.

As already indicated the function of the Virtual Library Eastern Europe is not only to integrate materials created by the five partner-institutions but also materials created by other institutions. It serves as an "aggregator" for East European scholarship primarily in Germany. New projects in the field of Eastern Europe funded by the DFG are integrated in the virtual

library but moreover all kinds of other projects and services. For example the East European service of the German Radiochanel "Deutsche Welle" is integrated just as well as the "monthly reports about the development in Poland" from 1955 to 1965, which were published by the Ostbüro of the Social Democratic Party of Germany (SPD) and digitized by the Friedrich-Ebert-Stiftung. The analysis of usage-statistics shows that the Virtual Library Eastern Europe is very well accepted not only in Germany but also in many other countries. In average there are about 45,000 visits per month.

As already said, there are three other DFG-funded special collections with the focus on Eastern Europe in Germany – one of them is the special subject collection Hungary which has been located at the State and University Library Göttingen since World War II. The virtual services of this special collection are currently being developed and integrated in the Virtual Library Eastern Europe. The special collection of Slavic languages and literatures at Berlin State Library, which was located at the Bavarian State Library up to 1997, has established its own virtual library in the past three years, the "Slavistik-Portal." It offers a subject guide to Slavic philology, an e-tutorial, several article databases, and integrates a wide range of international catalogues in its meta-search. The third important virtual library in the field of East European Studies is the "Virtual Library Northern Europe" (www.vifanord.de), which comprises the Baltic States. It is a cooperative project between the University Library of Greifswald where the Special Collection Baltic States has been located since 1998, the University Library of Kiel and the State and University Library at Göttingen.

Apart from these virtual libraries that are specialized in Eastern Europe, there are quite a few other virtual libraries dedicated not to regions or countries but to subjects, which contain materials on Eastern Europe:

- International Relations and Area Studies: IREON (http://www.ireon-portal.de)
- Economics and Business Administration: EconBiz (http://www.econbiz.de)
- German Education Portal (http://www.fachportal-paedagogik.de)
- Education, Social Sciences, and Psychology: Infoconnex (http://www.infoconnex.de)
- Sociology and Social Sciences: Sowiport (http://www.sowiport.de)
- Politics and Peace Studies; ViFaPol (http://www.vifapol.de)
- Virtual Library Psychology: ViFaPsy (http://fips.sulb.uni-saarland.de/port.htm)
- Virtual Law Library: ViFaRecht (http://www.vifa-recht.de/)
- Theology: http://www.virtheo.de
- History: Clio-online (www.clio-olnine.de), historicum.net
- Engineering: ViFaTec http://vifatec.tib.uni-hannover.de/

Vascoda.de – THE INTERDISCIPLINARY INTERNET PORTAL FOR SCIENTIFIC AND SCHOLARLY INFORMATION

As we have seen in the past eight years, a wide range of virtual libraries has been established in order to transpose the successful system of special collections into the digital age and to meet new demands of nationwide library services and information systems. This system of virtual libraries is not quite as complicated as the system of special collections, as not all special subject collections maintain their own internet portal but many of the virtual libraries are cooperative projects of two or more special collections. Even so the existing virtual libraries often partly overlap as the example of the *Virtual Library Eastern Europe* and the

Slavistik-Portal shows. Consequently it is not always obvious for the user which of the virtual libraries to use for research. In order to create one central access point for interdisciplinary and subject specific information retrieval, the *German Research Foundation* together with the German Federal Ministry of Education and Research (BMBF) supported the construction of a metaportal in which all of the previously mentioned virtual libraries are involved and integrated as far as technically possible. In the past six years vascoda (http://www.vascoda.de) has aimed to become Germany's national academic internet portal (see Figure 3).
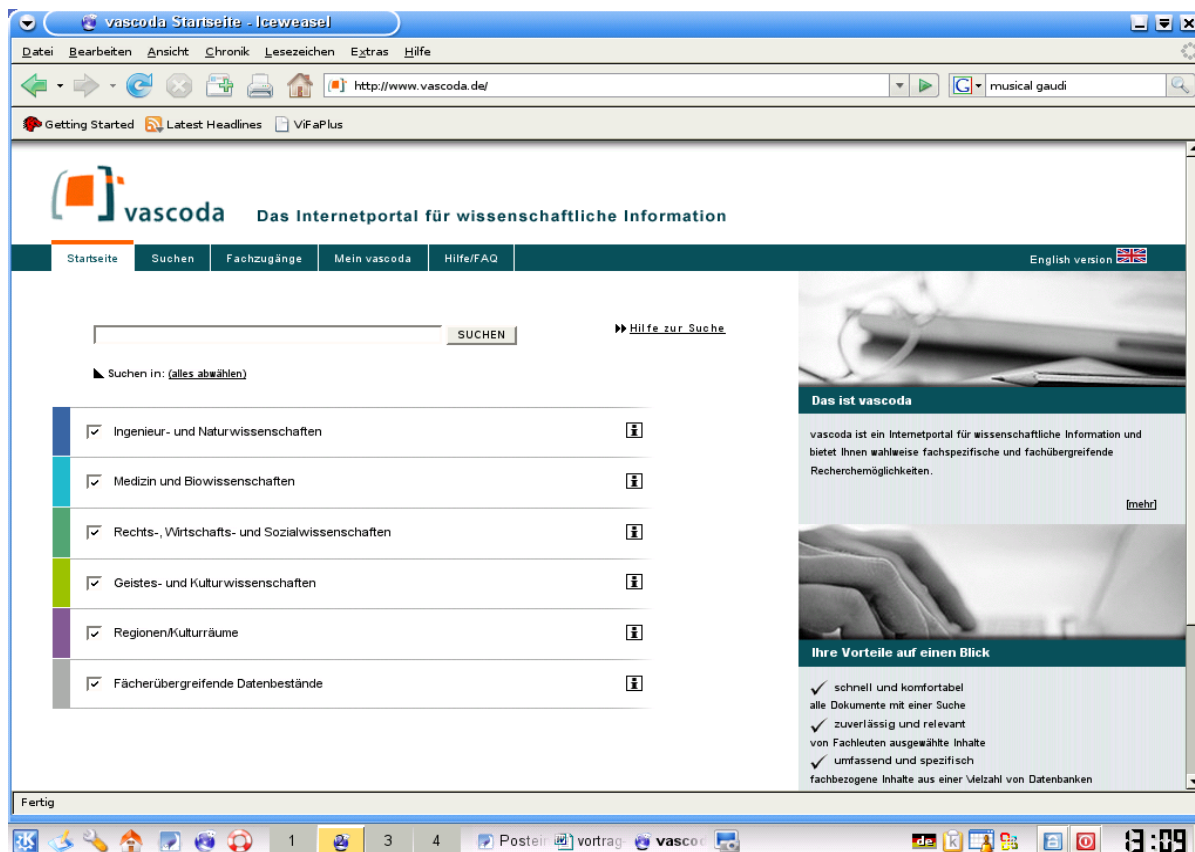
Figure 3: vascoda.de website

A user-friendly interface offers access to the most of the information gathered in the specific virtual libraries and other information alliances. Users can choose either a subject-specific or an interdisciplinary search. Vascoda.de is hosted by the North Rhine-Westphalian Online Utility and Library Service Center in Cologne (HBZ http://www.hbz-nrw.de). It uses intelligent search-engine technology so that the retrieval in a huge amount of data is very fast and offers many extra services such as different ranking and sorting options, dynamic drill downs etc. Wherever possible direct access to fulltexts is allowed, often by linking to other databases (e.g., the *Electronic Journals database* (EZB)) via open URL-technology. A nationwide system of authentication, authorization and digital rights management is currently being developed (see http://aar.vascoda.de). Based on the Shibboleth technology (http://shibboleth.internet2.edu/), a single-sign-on-solution will enable access to electronic resources licensed by the user's home institution.

As indicated above for technical reasons not all information of the virtual subject libraries and information alliances can be integrated in vascoda.de. At the moment unfortunately most of the information on Eastern Europe is not accessible via vascoda but this will hopefully change in the course of next year. Naturally as a metaportal vascoda cannot offer the whole range of specific searching and browsing strategies individual virtual libraries do. Its efficiency lies in the fast interdisciplinary search and overview of different information resources. vascoda.de was released in 2003 but is still rather "work in progress" than a final product, in respect of its technology as well as of its content. It is not easy to coordinate two or

three institutions in one virtual library, but it is an extremely difficult and enduring task to do this for the whole world of German academic librarianship.

ENDNOTES

1. http://www.dfg.de/forschungsfoerderung/wissenschaftliche_infrastruktur/lis/download/ssg_bericht_teil_1.pdf

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Digital Libraries: Organization and Psychological Challenges

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Дигиталните библиотеки – организационни и психологически предизвикателства

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ABSTRACT

Digital libraries are leading tendencies in library development. Their creation is related to changes of fixed permanent tendencies and destruction of stereotypes, and can be accepted as a process of breaking traditions and traditional models. It is a radical change, which causes difficulties in the rationalization of innovations. The library staff and its members are in front of an exceptional challenge. They need time for adaptation. As a general change, digitization is accompanied with difficulties. Problems appear in planning and organization. In the Bulgarian case, synchronization with the international tendency is necessary; a regional or sub-regional cooperation requires recovery/compensation. In this paper are described the organizational and psychological problems and the current challenges in front of the Bulgarian library staff. Dilemmas are springing up when choosing where to start. The different "narrow places" can be reduced to problems in organization or planning and psychological problems. Their identification and solution require recapitulation of the available resources, clarification of the potential (material and human) and planning the necessary financial funds. An obligatory condition is to research the consumer's opinion and the library staffs' positions, as well as reporting the results from other's practice. There are organization steps, which permit rationalization of problems and challenges. For implementation of the digitization and for presenting the digital resources, using PR and marketing strategies is necessary. An important element is molding the situation with a view to constructing a working program. Conditions for co-operation (in national and international plan) are clarified.

Keywords: Digital libraries; Digitization; Change; Adaptation

РЕЗЮМЕ

Дигиталните библиотеки са водеща тенденция в развитието на библиотеките. Създаването им е свързано с промяна на установените трайни тенденции; разрушаване на стереотипи; може да се приеме за процес на скъсване с традиции/традиционни модели. Това е радикална промяна, която поражда трудности при осмислянето на ново-въведенията. Библиотечната колегия и отделните й членове са пред изключително предизвикателство. Те се нуждаят от време за адаптация. Като генерална промяна дигита-лизацията е съпътствана с трудности. Възникват проблеми при планирането и организа-цията. В българския случай е необходим синхрон с международните тенденции; едно

регионално или субрегионално коопериране изисква наваксване. В текста са очертани организационните и психологическите проблеми и актуалните предизвикателства пред българската библиотечна колегия. Възникват дилеми при избора откъде да се започне. Различните „тесни места“ могат да се сведат до проблеми на организация и планиране и до психологически проблеми. Тяхното идентифициране и решаване изисква рекапитулация на наличните ресурси и изясняване на потенциала (материални и човешки) и планиране на необходимите финансови средства. Задължително условие е изследването на потребителските мнения и становищата на библиотечната колегия, както и отчитането на чуждия опит. Предлагат се организационни стъпки, които позволяват осмисляне на проблемите и предизвикателствата. За провеждане на дигитализацията и представяне на дигиталните ресурси е задължително използването на ПР и маркетинг. Важен елемент е моделирането на ситуация с оглед конструирането на работеща програма. Изясняват се условията за коопериране (в национален и интернационален план).

Ключови думи: *дигитални библиотеки България; дигитализация; промяна и предизвикателство; психологически трудности; организационни проблеми; програма за развитие; програма за адаптация*

Трудности от организационно и психологическо естество. Първите произтичат от отсъствието на цялостна, всеобща (общодържавна) концепция за дигитализиране на библиотечните фондове. Отсъства както необходимата национална стратегия, така и каквото и да е единно виждане по дигитализирането, дългосрочното съхранение и осигуряване на достъпа. Ситуацията впрочем добре е очертана от М. Добрева /с. 62-63/. Отсъства съответно и единна платформа на библиотеките, идея или идеи, около които да се осъществи дебат, осмисляне на ситуацията и предприемане стъпки по коопериране. Фактически отсъства звено, което да координира проблемите на дигитализацията.

Липсата на стратегия - както държавна, така и на библиотечната общност и на отделните, свързани с библиотеките обединение като АУБ, СБИР и т.н., не позволява да се предприемат каквито и да са стъпки по координация на разпилените усилия и различните инициативи.

Тук се налага едно отклонение: смело може да се каже, че в областта на дигитализацията ситуацията е подведена под постановката „спасявайте се кой как може“. Доведена до крайност, тази практика оттласква на заден план необходимостта от координиране. То се свежда на регионално (някои междубиблиотечни договорености) или локално (например в рамките на библиотеки от Кюстендил) ниво.

За да се очертае ситуацията в организационен план, трябва да се изхожда от следните положения, извън липсата на обединителна постановка:

- не е осмислена чуждата практика в разглежданата насока;

- споделяният практически опит е предимно по линията „какво е направено“, а не „как и защо е направено“;

- не се споделят проблеми по конкретни организационни и технологични казуси;

- няма организационен опит, който да е адекватен на чуждия. Липсата на дългосрочна стратегия и на достатъчен организационен опит се допълва от проблеми, като: липса на квалифициран персонал, на техника, и преди всичко – на средства.

Върху организацията на дигитализирането силно рефлектира практиката то да се представя като съответния проект, при което акцентът пада върху финансирането. Биб-

лиотеките, участващи в проекти по дигитализиране, охотно отбелязват спечелените средства за финансиране и отделят много по-малко място за проблемите при самото дигитализиране. Ако се вярва на техните доклади, респективно публикации от българските примери на дигитализация, може да се направи извод, че тя е процес, който протича безпроблемно.

Въпросите, свързани с избор на работно място, подбор на техника, място за съхранение на новите, дигиталните носители, и особено за условията на съхранение, почти са пренебрегнати.

Сред основните организационни проблеми пред дигитализацията в български условия е въпросът *от къде да се започне*, кое да се избере и как да се действа поетапно. Като цяло дигитализацията като концепция за бъдещето на библиотечните фондове и за предоставяне на библиотечни услуги е раздвоена между две разбирания. Според първото се дигитализира най-напред най-ценното, второто определя за основен критерий това, което е най-търсено. В крайна сметка се налага изборът на онази част от фондовете, която ще направи най-силно впечатление на донорите и на институциите. Това поставя организационната страна на дигитализацията под пряката зависимост на локални административни интереси, политически парадигми и други сходни фактори.

Наблюдаваната практика показва, че приоритетно е дигитализирането на онези материали, които се определят като културно-историческо наследство (например старопечатни книги, някои ръкописи и др. документи). Такъв подход е логичен, стига, разбира се, да е част от някаква по-цялостна общобългарска концепция за дигитализирането и да не е свързан със самоцелно търсене на моментен позитивен обществен резонанс.

Основната причина за досегашната разпръснатост на усилията по дигитализацията и за съвсем малките резултати се дължи преди всичко на основна организационна слабост: преди да се пристъпи към дигитализация, би трябвало да се изработят основни каталожни масиви: дигитални сводни каталози на старопечатни книги и периодика, национални сводни каталози на българската книга и периодика и др. Без тях всеки местен библиотекар може да приеме, че притежава единствени и уникални екземпляри и произволно да определя приоритетите си.

Една от характеристиките на психологическата ситуация е наличие на страх от новото, опасение от трудности, израз на професионален консерватизъм, страх, че библиотеката/библиотекаря абдикира, че вече не е нужен на читателя, т.е. не толкова за собствения си статус, колкото от гледна точка на професията и на релациите библиотекар - ползвател. В значителна степен този професионален егоизъм, както и нежелание да се наруши рутината на работата, затрудняват приемането. Недоверието се изразява в несигурността при избора как библиотекарите да се впишат в новите тенденции; това чувство се изразява във въпроса какви последствия има дигитализацията за отделните библиотекари, и респективно за библиотечната професия.

Обратното обаче е много по-силно изразено - чувство на адмирация, позитивна психологическа нагласа към възприемане, която създава и отвореност в колегията към дигитализацията.

Може да се твърди, че съществуват не толкова психологически спънки, колкото силен, дори неоправдан, ентусиазъм, който от своя страна води до прибързаност при вземане на решения. И при тази позитивна за дигитализацията ситуация съществува обясним психологически страх. Той обаче е следствие от несигурността кой път да се избере, за да се постигне максимален успех.

Липсата на маркетингова практика в библиотечната сфера проличава особено изразено тук. Извършва се по-скоро ПР дейност, показваща осъществяването на проекти,

отколкото какви резултати имат проектите и каква дигитална услуга се предлага, т.е. ПР има, но само до огласяване на резултати с оглед изтъкване активност на институция (имиджова дейност), но не и с акцент върху популяризиране на услуга. Особено остро се чувства разминаването между ПР на отделни усилия в областта на дигитализацията с общия имидж и популярността на библиотеката. Това се отнася преди всичко до дигитализираните „ценни" колекции (например старопечатни книги и вестници) на малки провинциални библиотеки в селища, където практически няма лица, които да ползват такава книжнина.

Добре проведени маркетингови и ПР кампании биха дали сведения за отношението на публики и други сегменти към предлаганите услуги, биха предоставили материал, показващ интереси и приоритети на публиката, и, разбира се, като обратна връзка биха позволили да се получи оценката за библиотечната дейност в посока на дигитализация.

Delivering an Interactive Library Experience through Web 2.0

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Предоставяне на интерактивно общуване с библиотеката през Web 2.0

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Сингапур

ABSTRACT

In recent years, the proliferation of Web 2.0 technologies has changed the way many people communicate and interact with each other on the Internet. For libraries, the availability and ease of use of rich Internet applications have provided new ways to reach out to the communities they serve while providing them with a more interactive and personalized experience. This paper describes the experiences of an online university in building a library portal using a locally-hosted open-source blogging platform as a content management system. With support for both tagged and hierarchical content structure, the system provides flexible content organization and ease of update. It also leverages built-in functions and customized widgets to deliver an interactive user experience through features such as a searchable knowledgebase for frequently asked questions, an online enquiry form, support for RSS syndication and user participation through the posting of comments and suggestions to designated pages.

Keywords: Virtual libraries; Web 2.0; Blogs; Open source software

РЕЗЮМЕ

През последните години разпространението на технологиите на Web 2.0 промени начина, по който мнозина комуникират и взаимодействат през Интернет. Достъпността и лесната употреба на многобройни Интернет приложения предоставиха на библиотеките нови начини да достигнат до общностите, които обслужват като им предлагат възможност за интерактивно и персонализирано общуване. Този доклад описва опита на един онлайн университет по изграждане на библиотечен портал с използване на локална платформа за блог хостинг с отворен код за система за управление на съдържанието. Системата се поддържа от кодирана и йерархична съдържателна структура и предлага гъвкава и лесна за актуализиране организация на съдържанието. Тя използва вградени функции и уиджети с възможност за съобразяване с изискванията на потребителите, за да им предостави интерактивно ползване с характеристики като база данни за често задавани въпроси с възможности за търсене, онлайн формуляр за запитвания, софтуерна поддръжка за RSS и участие на потребителя с постинги на коментари и предложения към посочени страници.

Ключови думи: виртуални библиотеки; Web 2.0; блогове; софтуер с отворен код

INTRODUCTION

First coined in 2004 (O'Reilly, 2005), the term Web 2.0 has come to encompass a range of technologies from blogs and wikis to content tagging, social networking, RSS and mashups. Although some people may disagree on what constitutes Web 2.0, it is clear that the new possibilities it offers have revolutionized the way people communicate and interact with each other on the Internet. The availability and ease of use of rich Internet applications have also provided libraries with new ways to reach out to the communities they serve while providing users with a more interactive and personalized experience.

One of the most widely-adopted Web 2.0 technologies among libraries is possibly the blog. A blog or weblog is "a hierarchy of text, images, media objects and data, arranged chronologically, that can be viewed in an HTML browser" (Winer, 2003). Based on a study conducted in 2003 by Clyde (2004), there were an estimated 55 weblogs maintained by various types of libraries including public and academic libraries. In October 2008, the *Blogging Libraries Wiki* listed over 400 blogs by academic libraries alone, with the majority of them from North America. This exponential growth of the library blogosphere saw many innovative uses of the blog from community outreach and current awareness to documentation, preservation and professional development (Bar-Ilan, 2007; Brookover, 2007; Fichter, 2003; Goans & Vogel, 2003; Maxymuk, 2005; Schwartz, 2007; Wiebrands, 2006).

This paper describes the experiences of U21Global in building a library portal using a locally-hosted open-source blogging platform as a content management system. U21Global is an online university that offers graduate programs in Business and Information Technology Management. It is backed by an international network of leading research-intensive universities (see Endnote 1) in 11 countries.

BACKGROUND

Since the inception of U21Global in 2001, the library portal has been built as a customized component within our Learning Management System (LMS). It provided seamless, authenticated access to subscribed resources from the library portal which was basically a collection of database-generated text-only pages and links. However, as our library collection grew and new services were introduced, it became apparent that the library portal could no longer support the increasing demands for scalability, flexibility and interactivity.

A blog, on the other hand, offered numerous features that were found to be lacking in the then library portal. These include lack of support for flexible content organization and layout, content tagging and searchability, user-generated content, image display and link persistence. The blog supports many of the key principles behind Web 2.0 (Miller, 2005) through a modular platform which enables easy remix of content, rapid deployment of applications, sharing and community building. It was therefore better-suited for delivering an interactive library experience to meet the changing needs of users.

THE LEARNING ENVIRONMENT

At U21Global, our learning environment extends beyond online courseware materials and faculty facilitation to include collaborative problem-solving and peer learning through the innovative use of technology. The library plays an important role in the virtual learning environment not only as a supporting learning resource, but also as a "place" where the campus community could potentially meet to learn and share ideas with one another.

In Figure 1, we illustrate the various systems which provide support for library services and applications for our campus community. Apart from facilitating access to library guides and subscribed resources, our library portal also serves as a gateway to other valuable resources such as 1) faculty-produced podcasts in our Digital Media Repository, 2) access to synchronous library webinars and archived training sessions, and 3) community & outreach services through book review contributions and RSS alerting services for library news and events.
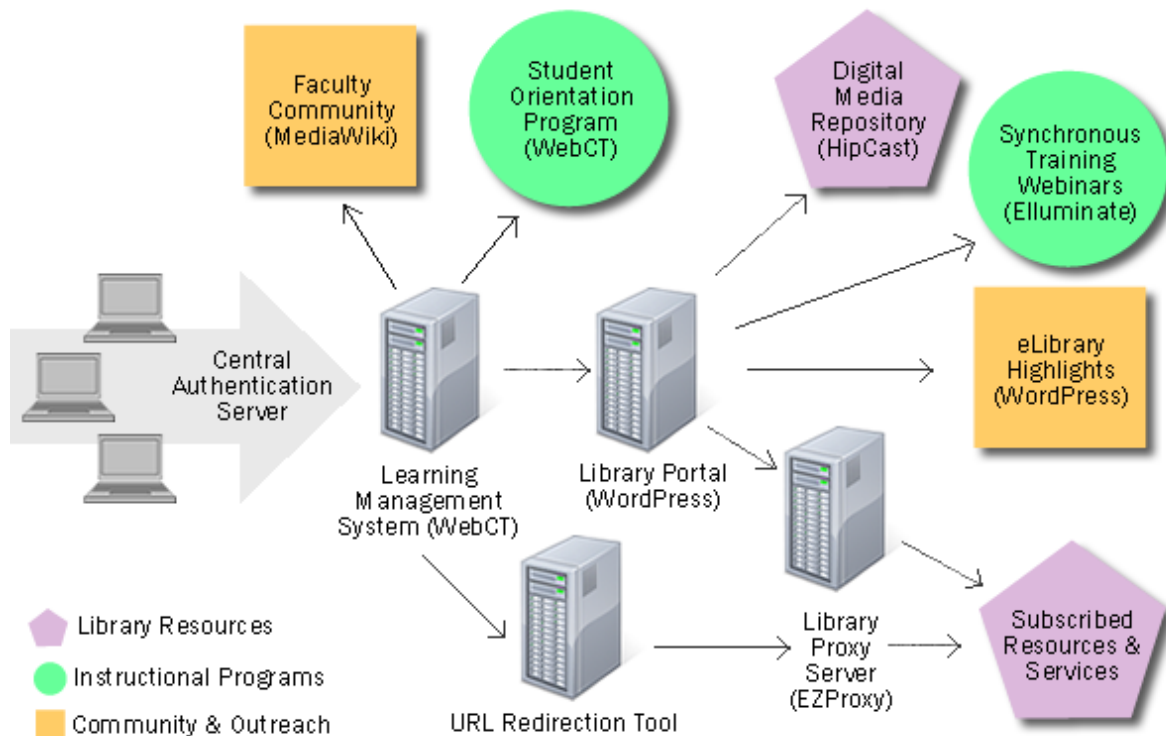
Figure 1: Overview of library-related services and applications

Although many of our library resources and services are accessible through the library portal, our LMS is instrumental in the integration of library resources into the learning environment to enrich the teaching and learning experience for both faculty and students. By providing links to quality library resources from course-specific content and discussion boards within the LMS, students can easily access journal articles and case studies recommended by the faculty. These links have been created based on the Digital Object Identifier (DOI) or other supported linking syntax to provide permanent links to the selected resource. The URLs are then input into a database table and assigned a unique ID. Whenever a link is clicked, the URL Redirection Tool retrieves the matching URL based on the unique ID of the resource and routes the user via the library proxy service directly to the requested resource (Fig. 1).

To further increase the awareness and usage of library resources and services within the community, we have developed a wiki-based Faculty Community and online Student Orientation Program, both accessible via the LMS. Through the Faculty Community, both new and existing faculty are provided with an overview of learning resources at the university, including resources available through the library. In addition, our Student Orientation Program equips new students with the knowledge and skills to use the library resources effectively through a series of interactive quizzes, hands-on exercises, animated screen captures and other instructional materials.

IMPLEMENTING THE SOLUTION

When selecting a blogging platform, it is important to consider the needs of the organization, as well as the available budget and technical expertise to support the system (Gordon & Stephens, 2005; Rowse, 2006). At U21Global, we have identified the blog as one of the tools for facilitating discussions and for promoting learning and outreach both within and beyond the classroom. Therefore, we needed a blogging solution that could provide long-term scalability for supporting multiple blogs in a multi-user environment. In addition, it should be cost effective and easily integrated into our existing IT infrastructure as a locally-hosted system.

In early 2007, we implemented an open-source, multi-user blogging environment built on WordPress MU, Linux and mySQL. WordPress is a highly-customizable blogging platform supported by a strong user and developer community. This enables us to draw inspiration from the community and provides access to well-written documentation, new releases and a growing repository of templates, plugins and widgets to extend the functionalities of our blog.

As one of the early adopters of blog technology at the university, we launched our first library blog in April 2007. Aptly-named *eLibrary Highlights,* this blog helped users stay informed of the latest developments in our eLibrary such as new resources and features, upcoming events, etc. Users are also invited to comment on any of the postings or contribute book reviews.

In December 2007, we began developing the second library blog which would eventually replace our existing library portal. Our project team consisted of one librarian and two IT professionals who took charge of the systems implementation and user authentication. In August 2008, we officially launched our revamped, blog-based library portal with a refreshing new design, improved navigation, more content and greater interactivity.

Authentication and Access

One of the key requirements of our library portal was to provide convenient single sign-on access to authorized users, which include our faculty, students and staff. To access the library portal, users must first authenticate themselves to our Central Authentication Server (CAS). Once authenticated, users are directed to our LMS where they can access the library portal and post comments to designated pages. Authenticated users are also provided seamless access from the library portal, course content and discussion boards to subscribed resources via our library proxy service without the need to re-authenticate.

Design and Layout

The WordPress theme system offers immense flexibility to customize the design and layout of blogs. A theme is a collection of modular template files, style sheets and code files to "produce a graphical interface with an underlying unifying design for a weblog" (from Word-Press's website). From the thousands of themes available, we selected one that closely matched the layout we envisioned so as to minimize the effort required to customize the template files.

To determine the ideal layout, we first identified the different types of information and services to be presented to our users. Next, we grouped the information into appropriate content categories before placing them into wireframes to help us visualize the layout on the screen. By bringing together wireframes in a sequence of pages, it is possible to illustrate the paths of navigation and interactions on the page (Kelway, 2008). This helps us to focus on the site functionality while providing a skeleton for the final visual design.

Figure 2 illustrates a simple wireframe used for designing the layout of our portal home page. Each page comprises three areas: the header, main content and footer. Both the

header and footer areas are consistently displayed throughout the entire site, while the layout for the main content area changes according to the type of information presented. By customizing the template files and style sheets, we transformed a three-column theme into a two-column layout so as to provide more room for the main text area. Depending on the information presented on the page, we would selectively display a left-sidebar with navigation links or a right-sidebar featuring upcoming events and the latest news.
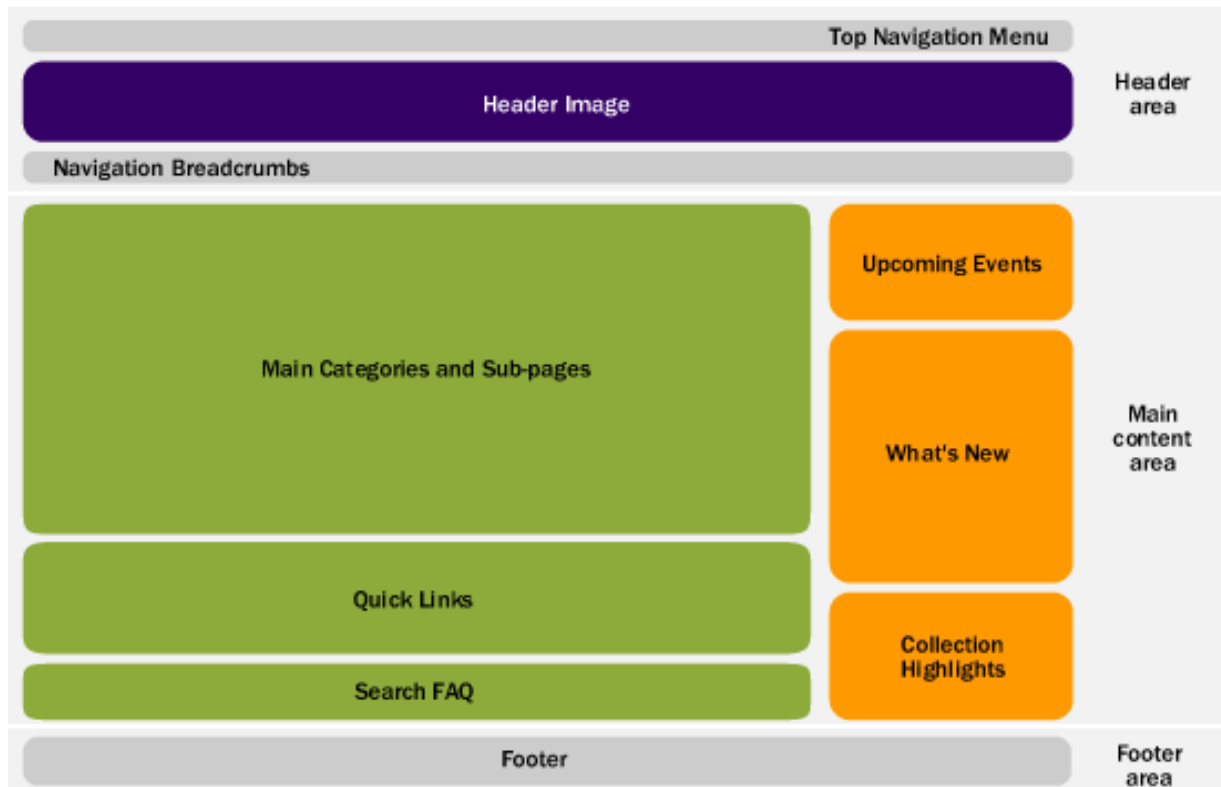
Figure 2: Wireframe for home page of library portal

Although style sheets are often used for customizing layouts and fonts on screen, they can also be used for styling a printer-friendly version of the page. As some of the WordPress themes have not been styled for print, the resulting printout may run into multiple pages especially if the sidebars include many links. To overcome this, we modified our style sheet by specifying the sections we wanted to include in the printout. This ensures that only the pertinent information on the page will be printed.

Content Structure

An important criterion when using a blog as a content management system (CMS) is to ensure that pages and postings can be rendered according to the desired content structure. Unlike a typical blog, displaying the latest postings in reverse chronological order is clearly not the ideal way to navigate a library portal. Although many of the available themes support page-based and category-based navigation, it is useful to select one which is able to support a hierarchical navigation structure for pages and categories. A multi-level content structure offers better content organization and accessibility, allowing users to delve deeper into the content without losing track of the underlying topic.

The main content area of our library portal is largely built around a collection of hierarchical pages. The five major sections of the portal comprises: About, eResources, Research Tools, Services and Digital Media. Users can navigate to sub-pages within each section by following the links provided from the home page. Within each page, navigation breadcrumbs are displayed in the header area to provide users with a visual guide to where they are in terms

of the overall navigation structure. The breadcrumb trail, therefore, doubles up as a navigation tool in addition to predefined category links in the left sidebar.

Figure 3 illustrates the hierarchical content structure for the *Research Tools* section. In this example, *Research Tools* is presented as the top-level page. Each of the 2nd-level pages such as the *Referencing Guides* and *Subject Guides* provides access to 3rd-level pages categorized under them.

```
RESEARCH TOOLS
- Database Guides
- How Do I Find?
- Referencing Guides
- Research & Writing
- Subject Guides
    -- Accounting & Finance
    -- EBusiness
    -- Economics
    -- Entrepreneurship & SME
    -- Ethics & Corporate Social Responsibility
    -- Human Resource Management
    -- International Business
    -- Knowledge Management
    -- Leadership & Strategy
    -- Marketing
    -- Project Management
```

Figure 3: Hierarchical content structure for the Research Tools section

Searchability

With a campus community that is as geographically-diverse as ours, it is important for us to be able to provide our faculty and students with a quick way to find the answers they need anytime and anywhere. Building on the inherent search functionality of the blog, we created a KnowledgeBase of Frequently Asked Questions (FAQ) with topics ranging from how to download case studies to proper referencing and troubleshooting of technical problems. In addition, we have also included Previously Answered Questions (PAQ) featuring a select list of reference queries and answers with the purpose of sharing information and tips with a wider audience while preserving the anonymity of the user.

To enable users to easily retrieve answers from the KnowledgeBase, each question and answer set has been created as a single post and assigned one or more category tags or keywords. Users can click on the assigned tag within each post to view a list of related questions with the same category tag. For ease of access, we provided a search box for the KnowledgeBase on the home page and in the sidebar of every page. Some changes were also made to the post and search template files to customize the on-screen messages, content layout and navigation links.

Customized Widgets

A widget is defined as "the files that make up a self-contained reusable module of functionality for a site" (http://developer.ning.com/notes/WWF_Glossary_and_Notes). Widgets (or plug-ins) provide an easy way to incorporate design elements, gadgets, content, images and other functions to a blog or website (http://codex.wordpress.org/Plugins/WordPress_Widgets). Although programming skills are not a prerequisite for using widgets, the more advanced customization features may require some knowledge in HTML, PHP, CSS and other codes.

Selecting and implementing suitable widgets takes time and effort, especially when customization is required. Many of the WordPress widgets have been developed for the standard version, so their full functionalities may not be supported on the MU version we are using. We incorporated widgets to the library portal one at a time, testing each widget extensively in an identical test environment before rolling them out into the production environment. Here are some of the widgets we have incorporated to enhance the interactivity and navigability of the library portal.

- *Advanced RSS Widget* – an easy-to-use widget which offers complete control as to how RSS feeds are displayed on the sidebar. When installed on a widget-ready theme, some of the feed customization can be done through the WordPress admin interface. We use this widget to integrate RSS feeds from our eLibrary Highlights into the library portal.

- *Bookmarking Widget* – a plug-in which automatically adds a customizable bookmarking widget to every blog page and posting. Users can bookmark and share these pages and postings through popular bookmarking and social networking websites such as Digg, MySpace, Del.ico.us, Facebook, etc.

- *Contact Form* – an online form with customizable themes and anti-spam security features. We modified this form to provide our *Ask-A-Librarian* service to enable users to send a message to the librarian for assistance with using the library.

- *Navigation Breadcrumbs* – a simple program which displays a hyperlinked breadcrumb trail based on the hierarchical page structure of the blog. It offers users a visual guide to their browsing location and enables them to navigate the content more efficiently.

Other Add-ons

In addition to widgets, we also extended WordPress features through third-party web services. For example, we use an external application called FeedBurner (www.feedburner.com) to simplify feed subscription for our users. RSS, which stands for Really Simple Syndication or Rich Site Summary, is a standard feature in WordPress which enables users to subscribe to feeds to learn about the latest postings and comments. Using FeedBurner to power our email subscription service, we are able to offer users a hassle-free way to sign up for the email alerting service by clicking on an email subscription link and supplying a valid email address. From the FeedBurner admin interface, we can manage the email subscriber list, customize our delivery and email branding options.

Apart from the email subscription service, FeedBurner also offers an interesting array of tools and services to help publicize, optimize and analyze feeds. The Headline Animator, for example, dynamically generates a widget-like graphic that can be placed on any web page to display the latest items in your feed. Also available through FeedBurner is the stats service for feeds which provides detailed subscription data, click-through tracking, and information on feed readers and aggregators, email services, web browsers and bots used by subscribers to access your content.

Another third-party web service we found to be very useful is Google Analytics (http://www.google.com/analytics/). Website administrators often track access statistics and other useful information to help them learn more about their visitors. By adding a tracking code to our header template in WordPress, we are able to find out which geographical location our visitors were accessing from, which pages they visited, how long they stayed on our website, what browsers they were using, etc. The reports also show the exact keywords used when querying our KnowledgeBase and how often each keyword or search string was used. The information collected provides us with valuable insights to user needs and navigation behavior which, in turn, helps us to improve the usability of our website.
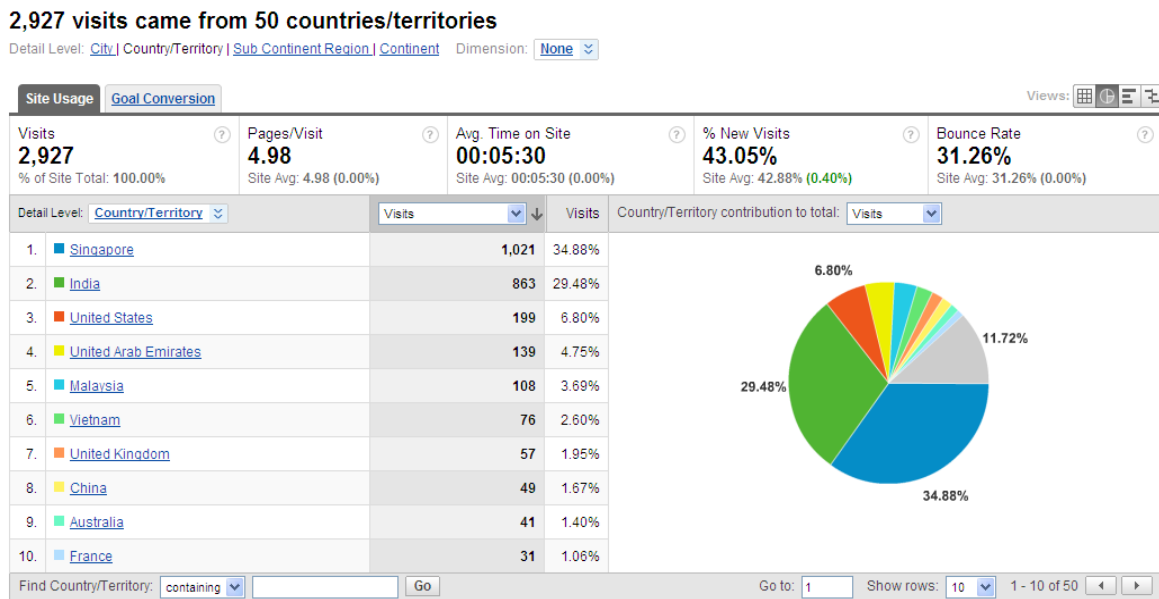
Figure 4: Visitors to our library portal from 10-Jul-2008 to 10-Oct-2008
(Source: Google Analytics)

Figure 4 shows the map overlay (geolocation visualization) of website visits following the soft launch of our new library portal in July 2008. It logged a total of 2,927 visits from 50 countries with each visitor spending an average of 5.5 minutes on the site and viewing an average of 4.98 pages per visit. Over 43% of visits were made by first-time visitors to the portal. As exemplified in Fig. 4, Google Analytics provides several charting tools and filters for generating visually-appealing usage and trending reports which could be easily incorporated into presentations and management reports.

GOING FORWARD

Despite the short span of time since the rollout of our new library portal, we are encouraged by an increase in the number of reference-type queries received through our Ask-A-Librarian service. This may reflect a greater awareness of library services and resources among users, and an increased usage of the library resources. We also noticed a decline in the number of frequently asked questions which may be attributed to the improved retrievability of information in our KnowledgeBase through content tagging and searchability. A thorough investigation of our website analytics, resource usage reports and reference transactions over a longer period of time will likely provide us with a clearer idea of online information seeking behavior among users.

On the other hand, we have seen little activity in terms of user contributed content during the past three months. We noticed a handful of postings which included a link suggestion and several book review contributions. Despite the slow start, we hope to see more participation from faculty and students to help transform the library portal into a vibrant learning community. More importantly, we need to find ways to further engage the community and assure them of the value they bring with their contributions.

CONCLUSION

The library has come a long way from card catalogs and printed books to integrated library systems and vast digital repositories. Along with the rapid growth of information and media-rich content comes the pressing need to provide more efficient ways to organize and reliably retrieve relevant information in a timely manner. The ubiquitous Web 2.0 has paved the way for the evolution of static Web-based content to information that can be easily created, re-mixed, shared, commented on, tracked, tagged, and aggregated into a single, personalizable page. With blogs and RSS, we have only begun to tap into the many possibilities of using Web 2.0 technologies to deliver an interactive library experience.

ENDNOTES

1. Participating universities include Fudan University, Korea University, Lund University, National University of Singapore, Shanghai Jiao Tong University, Tecnológico De Monterrey, University College Dublin, University of Birmingham, University of Delhi, University of Edinburgh, University of Glasgow, University of Hong Kong, University of Melbourne, University of Nottingham, University of Queensland, University of Virginia and Waseda University.

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Library 2.0: Creating Presence, Relationships and Mutual Value

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Библиотека 2.0: Създаване на присъствие, отношения и взаимна изгода

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ABSTRACT

The heart of Library 2.0 is user-centered change. It is a model for library service that encourages constant and purposeful change, inviting user participation in the creation of both the physical and the virtual services they want, supported by consistently evaluating services. This paper has two aims: one, to analyze marketing theories (Social Marketing, Services Marketing, Relationship Marketing etc) in framework of Library 2.0; and two, to discuss the role of marketing concepts (closely Relationship Marketing) as a component of LIS education in Europe to support Library 2.0 developments. Also, this paper will discuss possibilities from relationship marketing theories in the framework of concept Library 2.0. This paper provides an overview of various approaches to include relationship marketing concepts in Library and Information Science based on literature review. This paper will consider the current and future possible direction of this topic within Library 2.0 developments.

Keywords: Library 2.0; Marketing theories; LIS education

РЕЗЮМЕ

В центъра на Библиотека 2.0 е промяната, насочена към потребителя. Това е модел на библиотечно обслужване, който поощрява непрекъснатата и целенасочена промяна и привлича участието на ползвателите в създаването на желаното от тях физическо и виртуално обслужване с подкрепата на последователно развиващи се служби. Този доклад си поставя две задачи: първата е да анализира маркетинговите теории (социален маркетинг, маркетинг на услугите, маркетинг на отношенията и т.н.) в рамките на Библиотека 2.0, а втората – да разгледа ролята на маркетинговите понятия (маркетинг на отношенията) като съставна част на образованието по БИН в Европа, която ще съдейства за развитията, свързани с Библиотека 2.0. На основата на анализ на литературата, докладът предлага преглед на различните подходи към включването на понятията от маркетинга на отношенията в библиотечно-информационните науки. В него ще бъде разгледано настоящото и възможните бъдещи направления в тази тема в рамките на развитието на Библиотека 2.0

Ключови думи: библиотека 2.0; маркетингови теории; образование по БИН

CONCEPT OF LIBRARY 2.0

The information environment within which libraries are functioning today is changing faster than ever before. Contemporary Library 2.0 is a concept of a different library service, towards the needs and expectations of library users. In this understanding, the library makes information available wherever and whenever the user requires it, and seeks to ensure that barriers to use and reuse are removed. Library 2.0 can be seen as a reaction from librarians to the increasingly relevant developments in Web 2.0 and social software and an environment that is saturated with information available through more easily accessible channels (Curran et al, 2007).

Maness (2006) defines ―Library 2.0" as ―the application of interactive, collaborative, and multi-media web-based technologies to web-based library services and collections," and suggests this definition be adopted by the library community. The concept of Library 2.0 has been developed by analyzing it as user-centred change (Casey and Savastinuk, 2006), focused on web-services (Abram, 2005), user-centred virtual community (Maness, 2006), and as a concept that operates according to the expectations of today's users.

A recent study by Maness (2006) shows that the concept of Library 2.0 could be understood to have at least four essential elements:

- It is user-centred

- It provides a multi-media experience

- It is socially rich

- It is communally innovative

As Habib (2006) pointed out ―Library 2.0 describes a subset of library services designed to meet user needs caused by the direct and peripheral effects of Web 2.0." This definition explains that Web 2.0 precipitates changing user needs and that Library 2.0 services meet these needs. This definition includes all implementations of Web 2.0 methodologies and technologies by libraries

An extensive overview of the developments of concept of Library 2.0 falling in the period of time between the 2005 and 2007 are given by Curran, Murray and Christian (2007) and Rutherford (2008). Much of the debate around the term and concept has been rather theoretical, only a small amount is related to research projects like Rutherford's (2008) and Habib's (2006) approach. There has been also criticism related to Library 2.0; as Habib states, ―Firstly, the term ―Library 2.0" is confrontational in that it declares, or implies, all prior library services obsolete and in need of replacement. Secondly, the term ―Library 2.0" is meaningless in that it provides nothing new to the professional discourse. It essentially means nothing more than progressive librarianship" (p. 5).

Hence, the understanding that Library 2.0 is part of contemporary librarianship means going a step further and trying to assess the effects of Library 2.0 on users. One possibility to evaluate concept of Library 2.0 is to analyze possibilities to use marketing principles in framework of towards the needs and expectations of library users.

CONTRIBUTING MARKETING CONCEPTS IN LIS

The concept of marketing has been analyzed in Library and Information Science (LIS) professional literature since the 1970s. The principles of marketing were accepted, and analytical relevant overview can be found by using the annotated bibliographies that contain secondary information since 1970 until 2002 (Norman, 1982, 1989; Cox, 2000; Hamilton-Pen-

nell, 2002; Owens, 2002). Key contributions to library marketing literature, from the early 1970s through the present, can be found in Koonz, Gupta and Webber (2006).

Cox (2000) analyzed the publications in 2000 concerning the library marketing in professional literature and identified the following trends:

- Increasing integration of the marketing and planning processes, emphasis of the need for marketing surveys, increasing usage of the pro-active management methods in librarianship

- The continuous thorough analysis of the main concepts of marketing: the basis of marketing, the analysis of marketing and public relations, advertising; common and different in sale communication

- Increasing adjustment and implementation of the business world marketing methods in library marketing processes

- Analysis of usage of new marketing methods and means in the development of library marketing strategies

The application of marketing concepts to LIS offers great potential for addressing these issues. In particular, the theory and methods of relationship marketing may help enable libraries to develop successful strategies for Library 2.0 as well.

Marketing has been identified as one of the areas of competency that is important for LIS professionals in many studies and projects, as evidenced by the European Curriculum Reflections on Library and Information Science Education (2005), Education and Research for Marketing and Quality Management in Libraries (2002), IFLA Guidelines for Professional Library/Information Educational Programs (2000), and other reports.

A review of the professional literature shows clearly that marketing concepts and techniques have become a topic of interest and point of concern for LIS professionals (see for example, Gupta, Koonz, Massisimo, and Savard (2006), Singh (2005), Walters (2004), de Saez (2002), Rowley (2001, 2006), and Weingand (1998)) and LIS educators as well (see Mahesh and Gupta (2006), Webber (2002, 2006), Mittermeyer (2002, 2006), Georgy, Lepik, Petuchovaite (2005), Bouthillier (2002), and Savard (1988, 2000)). Entire books on LIS marketing are few – there are ―how-to guides" for librarians, providing step-by-step instructions for every phase of a comprehensive library marketing program (Siess 2003; Walters 2004) and profound analysis to ensure that librarians and information professionals understand marketing concepts and can apply marketing techniques (de Saez 2002; Rowley 2006; Alman 2007).

The LIS marketing literature reflects that the growth in marketing studies continues. From the beginning of 2000, researchers started to pay attention to the following research issues: attitudes of librarians and information professionals towards marketing (Koonz and Rockwood, 2001), internal marketing (Broady-Preston and Steel, 2002), relationship marketing (Besant and Sharp, 2000; Maycock and Weech, 2007), market orientation and culture (Singh, 2004), and public relations (Marshall, 2001).

The LIS marketing literature shows a development from general discussion based mainly on the functional aspects of marketing, to research in the form of case studies grounded in the management literature, more concerned with strategic issues. There are no wide reaching studies across sectors, no longitudinal studies, and no meta-analysis.

OVERVIEW OF RELATIONSHIP MARKETING

The most known and used definition of marketing by states that ―Marketing is analysis, planning, implementation, and control of programs designed to create, build, and maintain

beneficial exchange relationships with target audiences for the purposes of achieving the marketer's objectives" (Kotler and Andreasen, 1991, p. 15). Marketing can also considered as ―finding, diagnosing and filling the needs of relevant clientele through mutual beneficial exchange relationships, and doing so better than one's competitors" (Harmon, 2002, p. 61). Both definitions emphasize that marketing is an exchange relationship, but there is not a clear identification what kind of relationships are behind of these exchanges.

Relationship marketing is a form of marketing that evolved from direct response marketing in the 1960s and emerged in the 1980s, in which emphasis is placed on building longer term relationships with customers rather than on individual transactions. It involves understanding the customers' needs as they go through their life cycles. It emphasizes providing a range of products or services to existing customers as they need them (Morgan and Hunt, 1994).

Research in the area of relationship marketing has identified a minimum of eight types of factors that influence relationship marketing based strategy success. These factors are: relational, resource, competence, internal marketing, information technology, market offering, historic and public policy factors (Hunt et al, 2006). Studies examining relational factors suggest that successful relationship marketing results from certain aspects of the relationships that characterize successful relational exchanges. Six factors cited most often are trust, commitment, cooperation, keeping promises, shared values, and communication (Hunt et al, 2006). In the context of Library 2.0 the same factors are integrated into the essential elements of Library 2.0 and are core for future assessment of Library 2.0 value. For Library 2.0, to be successful, ―services are frequently evaluated and updated to meet the changing needs of … users. Library 2.0 also calls for libraries to encourage user participation and feedback in the development and maintaining of library services. The active and empowered library user is a significant component of Library 2.0, with information and ideas flowing in both directions" (Casey and Savastinuk, 2006). As a result, the Library 2.0 client is no longer a passive consumer of services but an active participant and producer of information.

Traditional marketing has emphasized the importance of acquiring new customers but relationship marketing, however, has put a more overt emphasis on the importance of developing long-term supportive relationships with existing customers and posits that energy and resources are better spent on them (Grönroos, 1997). Grönroos (2000) suggests a framework of relationship marketing which includes an interaction process as the core, a planned communication process as the marketing communications support through distinct communications media, and a customer value process as the outcome of relationship marketing.

In the context of LIS the relationship marketing approach suggests that:

• Libraries are required to go beyond the needs, wants, and demands of their customers and should try to fulfil them by anticipating them as far as possible (Singh, 2003)

• Relationship marketing offers specific benefits to libraries, and can be applied to particular effect in marketing digital library services (Henderson, 2005)

• Libraries should consider at least six relationships and partnerships: customer markets, internal markets, supplier and alliance markets, referral markets, recruitment markets and influence markets (Besant and Sharp, 2000)

Thus, the focus of relationship marketing is not just on gaining customers for single exchanges but on retaining and building meaningful connections with customers as the foundation for an ongoing long-term relationship.

CONCLUSION

Marketing is not a new subject in LIS yet at the same time it is not assumed to be skill-fully used. Marketing is rather the method to realizing the main basis of the library mission and planning of future techniques. Marketing concepts and relationship marketing in particular offer challenging possibility for libraries, especially for Library 2.0 to see and understand how to develop successful strategies for prospective partnerships. As Maness (2006) considered, ―Library 2.0 is not about searching, but finding; not about access, but sharing" and Crawford (2006) pointed out ―there is at least sixty two views and seven definitions of Library 2.0 and … do keep an open mind to ideas and tools that started outside the library field—if you haven't already been doing so." Libraries are getting ready for changes reflecting developments in the field, going well on their way to become Library 2.0.

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Enhancing Library Resources through Electronic Technologies

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Увеличаване на библиотечните ресурси чрез електронни технологии

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Съединени щати

ABSTRACT

Libraries and librarians are in a state of flux as they work to meet the changing needs and demands of researchers, students and other patrons who utilize collections and services. Electronic technologies have allowed for exciting changes in scholarly communication that have enhanced the way researchers can access information. Librarians and libraries continue to incorporate these technologies to provide broader access to research data. The presentation will provide an overview of the *Harvard Project on the Soviet Socialist System Online,* an electronic resource created by the Harvard College Library to provide enhanced access to important data on the Soviet Union. After the conclusion of the Second World War, researchers from Harvard University conducted extensive oral interviews with refugees from the USSR. The results of this research serve as a unique source for the study of Soviet society between 1917 and the mid-1940s. The interviews have been digitized by Harvard College Library and made freely accessible via the World Wide Web in an effort to enhance their value as both a research tool and instructional resource. A number of professors at Harvard University have utilized the Harvard Project on the Soviet Social System (HPSSS) as a primary resource for both undergrad and graduate student research projects. Given the complex organization of the study, combined with the increasingly fragile nature of the actual artifacts, this resource was identified as an excellent candidate for digitization. The *Harvard Project on the Soviet Social System Online* is a cooperative venture between the Harvard College Library and teaching faculty to create a unique online resource for the study of Soviet society.

Keywords: Harvard Project on the Soviet Socialist System Online; Electronic resources; Digitization

РЕЗЮМЕ

Библиотеките и библиотекарите са в състояние на непрекъсната промяна, защото те работят, за да посрещат изменящите се потребности на изследователи, студенти и други ползватели на фондовете и услугите им. Електронните технологии създадоха възможност за вълнуващи промени в научната комуникация, които усъвършенстваха достъпа на изследователите до информация. Библиотеките и библиотекарите продължават да включват тези технологии, за да разширят достъпа до изследователски данни. Презентацията предлага преглед на Проекта на Харвард за съветската обществена сис-

тема – електронен ресурс, създаден от библиотеката на Колежа Харвард с цел да се разшири достъпът до важни данни за Съветския Съюз. След края на Втората световна война, изследователите от Харвардския университет провеждаха обширни интервюта с бегълци от СССР. Резултатите от това изследване служат за уникален източник за изучаване на съветското общество през периода между 1917 и средата на 40-те години. Интервютата са дигитализирани от библиотеката на Колежа Харвард и в резултат на опита да се увеличи тяхната стойност като изследователски инструмент и като образователен ресурс, те са достъпни свободно чрез глобалната мрежа. Редица професори от Харвардския университет са използвали Проекта на Харвард за съветската обществена система (HPSSS) като първичен източник за изследователски проекти на студенти и докторанти. Този ресурс беше определен като подходящ за дигитализация, защото се взе предвид сложната организация на изследването и все по-нетрайния характер на артефактите. *Проектът на Харвард за съветската обществена система* е съвместно начинание на библиотеката на Колежа Харвард и преподавателския състав, насочено към създаването на уникален онлайн ресурс за изучаване на съветското общество.

Ключови думи: *Проекта на Харвард за съветската обществена система; електронни ресурси; дигитализация*

INTRODUCTION

At the end of the Second World War, between 250,000 and 500,000 Soviet citizens found themselves living outside of the borders of the USSR in Western Europe, the United States, and beyond (Inlekes and Bauer, 1959). For approximately six years after the cessation of hostilities, many of these individuals lived in displaced person camps. This high concentration of dislocated citizens provided Western scholars with a unique opportunity to study Soviet society first-hand by interviewing these émigrés concerning their lives under communist rule. Of course, such access to rank and file citizens living in the Soviet Union was not possible, given the closed and totalitarian nature of the Soviet government and society. Indeed, intelligence agencies from many Allied powers took advantage of this opportunity to interview some émigrés in an effort to better understand the Soviet Union. However, these interactions targeted specific people, particularly those who held positions of responsibility in the military and/or government, rather than attempting to analyze the general population. By the early 1950s, the displaced person camps were shutting down as Soviet and other refugees relocated across Europe and beyond, making it more difficult to identify, locate, and interview these people. The final closure of the camps could potentially signal that a unique opportunity to learn about the everyday lives of Soviet citizens had slipped away.

Fortunately, at the end of the 1940s, scholars at Harvard University''s Russian Research Center (RRC), now known as the Davis Center for Russian and Eurasian Studies, realized that the exiled Soviet community concentrated in Western Europe represented a once-in-a-career opportunity to study the USSR based on that country''s own citizens'' observations and thoughts, rather than through the educated speculations of scholars observing from abroad. These researchers put in motion a plan to gather data from these displaced persons in an effort to collect unique information on the political, economic, social, and cultural conditions of the Soviet Union.

In the summer of 1949, senior RRC scholars conducted a series of test interviews with a small group of Soviet refugees that "established the feasibility and value of a large-scale interviewing project" (Inkeles and Bauer, 1959, p. 9). In early 1950, as a result of this successful pilot project, the Russian Research Center obtained funding from the Human Resources Institute, an Air Force intelligence agency located at Maxwell Air Force Base in Alabama, to carry

out a full-scale interview project (Contract AF No. 33 (038)-12909). The resulting program became known as the *Harvard Project on the Soviet System* (*HPSSS*), also referred to as the *Harvard Refugee Project*.

The interviews and data gathering took place between 1950 and 1951 (with a few interviews taking place as late as 1953). The primary émigré community surveyed was centered in western Germany. The data acquired through 764 interviews, 60 psychological tests, and 12,466 questionnaires attempted to provide an overview and understanding of day-to-day life in the Soviet Union from 1917 through the late 1940s (Bauer, Inkeles, and Kluckhohn, 1960).

The interviews were conducted in Russian, Ukrainian, or other languages of the Soviet Union, and then transcribed in English and reproduced by ditto-master for analysis and preservation (the actual 12,466 questionnaires were discarded). The interview data was divided into two sets, "Series A" and "Series B." The former (also referred to as Schedule A) dealt with personal history, covering the interviewee"s "work and educational history, his family background and relations, his sources of information–reading and listening habits and attitudes towards them–his social and political attitudes and a history of his relations to the regime" (Bauer, Inkeles, and Kluckhohn, 1960, p. 9). "Series B" (also referred to as Schedule B) supplemented this information and focused on specialized knowledge, such as the operation of Soviet factories, the medical system, the training of lawyers, problems of national minorities, and life under German occupation. "Series A" interviews consist of 37 volumes, and "Series B" of 24, with basic indexing completed separately (Balzer, 1980). These 61 volumes, along with the corresponding files, indexes, and guides were then deposited in the Harvard University library system.

USE OF THE HPSSS

The value of this venture is witnessed through the number of publications that utilized the data and information acquired. Within eight years of the enterprise"s completion, (1952-1960) at least 53 books and articles were published utilizing the *HPSSS* (see Inkeles and Bauer, 1959, pp. 464-467). Since that time, far fewer studies have been published based on this investigation. Part of the reason for the decrease in the use of this research can be explained by the fact that the information had become dated, but this does not fully account for the decline in publications. One must also consider that much of the raw data simply is not easily accessible. The materials are poorly indexed, making them challenging to use (Balzer, 1980). In addition, the physical condition of the copies of the ditto-masters continues to deteriorate, making many pages in the bound volumes difficult to read. Finally, the materials must be used in the libraries that house them, many of which are not open to the general public.

While use of the data and related information has declined since the 1960s, the value of this collection as a research and teaching tool remains high. The challenges of using these data sets aside, a number of professors at Harvard University have utilized the *HPSSS* as a primary resource for both undergraduate and graduate student research projects.

DIGITIZATION OF THE HPSSS

Given the complex organization of the study, combined with the increasingly fragile nature of the materials, the *HPSSS* was identified as a likely candidate for digitization by two professors, Dr. Terry Martin, Department of History at Harvard University and Dr. David Brandenberger, Department of History, University of Richmond in Virginia, and a Harvard graduate, who responded to a call put out by the Harvard University Library (HUL) for proposals for the creation of digital research projects that would have an immediate and demon-

strable use to Harvard's academic community for teaching and research. This grant program was called the "Library Digital Initiative" or LDI for short (http://hul.harvard.edu/ldi/html/ldi_origins.html).

The LDI competitive process grant program invited teaching faculty and librarians from across the university to submit proposals for the creation of digital resources. For seven years, from 1999 through 2006, HUL provided money to fund ten rounds of awards, during which 39 projects received funds and were completed (see http://hul.harvard.edu/ldi/html/funded_projects.html for the full list).

The origins of the *HPSSS Online* digital resource, like many of the other projects created with LDI funds, was distinctive in that teaching faculty approached the library with the idea for the project, rather than librarians developing it and then searching for faculty who would support the undertaking, as so often happens with this type of venture. Teaching faculty at both Harvard and the University of Richmond drafted the initial proposal as a way to support their pedagogical endeavors, particularly with undergraduates. They then worked with librarians of the Slavic Division of the Harvard College Library and of the Davis Center for Russian and Eurasian Studies to fully conceptualize the project for the grant proposal.

Dr. Brandenberger writes in the LDI proposal that the *HPSSS* research includes:

Extensive one-of-a-kind data on political, economic, social and cultural conditions of the USSR during this period. The study's value is enhance by the fact that it was compiled in English and organized according to a rigorous social science framework making it accessible to a broad range of students and scholars beyond those fluent in Russian. Ultimately, the breadth, depth and English-language accessibility of the *HPSSS* provide it with enormous potential, both as a teaching tool in the classroom and within a wider community of scholars on Soviet history, literature and cultural studies. (Harvard University Library, 2005, p. 2)

The review committee found these arguments persuasive and granted funds to digitize much of the *HPSSS* through LDI in 2005. The *Harvard Project on the Soviet Social System Online* was completed in the spring of 2007 and may now be accessed on the Web at http://nrs.harvard.edu/urn-3:hul.eresource:hpsoviet

The staff of the Harvard College Library Imaging Services developed and carried out the actual digitization project. They worked in close coordination with the teaching faculty and librarians involved in the grant proposal to successfully complete the digitization project in a little over twelve months time. The nature and condition of the materials found in the 64 volumes of "Series A" and "Series B" presented many unique challenges and as a result, both established procedures as well as some new approaches were utilized by Imaging Services to deal with this unique material. The focus of this chapter is to provide an overview of how the Harvard staff completed this project.

Even with the advantages of the electronic version, including enhanced searching and access capabilities, the *HPSSS Online* still reflects the original, paper resource. The definitive version of each interview is found in the page images rather than in the re-keyed text. As Dr. Brandenberger noted, "the *HPSSS* interview transcripts are „working copies" rather than standardized, edited, and polished book chapters. As such, they have idiosyncrasies…" Indeed, both the users of the original version as well as the electronic version will encounter special challenges because of the way that the interviews were conducted and transcribed. The interviews were conducted in the subject's native language (Russian or Ukrainian for example). At the conclusion of the session, the interviewer would translate his notes into English. As a result, program staff had very little time to work on these translations and therefore, there are often literal translations that one would not normally find in more polished versions of such text. For example, the Soviet film entitled *Veselye rebiata* is translated as *Happy Children*, when the

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actual title is *Happy / Happy-go-lucky Guys*, with rebiata referring to "guys" rather than children. In Russian, "happy children" would be "veselye deti."

As soon as the *HPSSS Online* was made publicly accessible last summer, it was selected to serve as the central resource for a Harvard undergraduate history research seminar during the fall 2007 semester. The professor utilized *HPSSS Online* both because of its content and due to the fact that it provided undergraduate students with the opportunity to conduct original research using archival documents. It is likely that had this resource not been digitized, the professor would not have chosen the paper version of the *HPSSS* for the course given its complex nature and its inaccessibility.

The LDI program selected The *Harvard Project on the Soviet Social System* for digitization because it is a resource that has both a scholarly and pedagogical value. Although the information gathered is dated, it still has great research value and the *HPSSS* continues to be utilized by scholars, both Russian/Soviet experts, and by those who cannot read Russian. *HPSSS Online* now provides these researchers with the opportunity to utilize this resource through their computer. Because the texts of the interviews are now fully searchable, project administrators expect researchers will find even more ways to analyze the data acquired.

CONCLUSION

While the *HPSSS* has been regularly consulted by researchers, its use in the classroom has been more limited. This is a result of the complex nature of using the 61 volumes of interviews and the indexes and guides. Simply stated, the paper and microfilm versions are difficult to use. Students could spend a whole semester or more attempting to identify relevant information. The *HPSSS Online* now provides straightforward online searching allowing a student to identify topics of interest quickly and easily. In addition, because the resource is built around the page images of the original documents, students have the opportunity to learn to work with archival material, including learning how to deal with the quirks of using such resources.

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Open Access Activities in Turkey and the Atatürk University Open Archive System

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Дейности, свързани със свободния достъп в Турция и системата на архив със свободен достъп на Университета Ататюрк

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ABSTRACT

Scholarly communication is a process that starts with the establishment of scientific publications and aims to spread them to the end users. In this process, the scientific periodicals are the main communication channels. During the last 20 years, the ever increasing cost of periodicals has caused subscription problems for libraries. Open Access (OA), which provides free access to the scientific publications, is one of the leading models against the traditional publishing industry. The "Open Access" (OA) initiative is having a tremendous impact upon the scientific communication process, which is largely based on publishing in scientific periodicals. Institutional repositories (IR) are an essential unit of open access infrastructure. Institutional repositories can provide an immediate and valuable complement to the existing scholarly publishing model, while stimulating innovation in a new disaggregated publishing structure that will evolve and improve over time. "Atatürk University Open Archive System" (AUOAS) was formed as part of the open access Project in Turkey and supported by the Scientific Research Funds of Atatürk University with an example of an open access institutional repository. AUOAS has been implemented to retrieve as full-texts of articles, proceedings, reports, coursewares, theses and dissertations through the Internet. In this article, firstly the reasons behind the open access notion and its development stages will be explained in a historical perspective and the institutional open access archives will be introduced to reader briefly. Later, there will be given information about open access activities in Turkey and structure, operation and contents of Atatürk University Open Archive System.

Keywords: *Open access; Institutional repositories; Atatürk University; Open archives*

РЕЗЮМЕ

Научната комуникация е процес, който започва със създаването на научни публикации и има за цел да ги разпространи сред крайните потребители. Основни комуникационни канали в този процес са научните периодични издания. През последните 20 години непрекъснато повишаващите се цени на периодичните издания предизвикваха проблеми при тяхното абониране от библиотеките. Един от водещите модели, който се противопоставя на традиционната издателска индустрия е Свободния достъп (ОА). Инициативата "Open Access" (ОА) има огромно въздействие върху процеса на научна комуникация, който се основава най-вече на публикуването на научни периодични издания. Институционалните репозиториуми са основни единици в инфраструктурата на свободния достъп. Те могат да бъдат непосредствено и ценно допълнение към съществуващия модел на публикуване и едновременно с това да стимулират нововъведенията в една нова и раздробена структура, която ще се развива и усъвършенства с течение на времето. "Системата на архив със свободен достъп на Университета Ататюрк" (AUOAS) беше създадена като част от Проекта за свободен достъп в Турция и финансирана от Фона за научни изследвания към Университета Ататюрк. Тя беше пример за институционален репозиториум със свободен достъп. AUOAS се прилага за търсене в текста на статии, доклади от конференции, отчети, курсови работи, тези и дисертации чрез Интернет. В този доклад се споменават на първо място причините за появата на идеята за свободен достъп, обясняват се в исторически план етапите на нейното развитие и накратко на читателя се представят институционалните архиви със свободен достъп. След това се дава информация за дейностите, свързани със свободния достъп в Турция и за Системата на архив със свободен достъп на Университета Ататюрк.

Ключови думи: *свободен достъп; институционални репозиториуми; Университет Ататюрк; архиви със свободен достъп*

INTRODUCTION

Scientific information is the information obtained about entities by means of scientific methods and reasoning out. It has such characteristics as being objective, universal reasonable and open to criticism. The reason why scientific information has these characteristics is that it is research-based information. Outcomes of research are examined, confirmed, and then announced to the scientific community by experts. Including phases of carrying out scientific researches and studies, evaluating in point of quality, distributing to the science world and preserving for future use, this process is known as scientific communication (ACRL, 2003).

Scientific communication devices are generally books and refereed periodicals. Periodical has been the mostly used material in scientific communication since the first scientific periodical was published in 1665. According to *Ulrich's International Periodicals Directory*, as of 2008 nearly 60,000 of 200,000 periodicals published throughout the world are academic and scientific periodicals. According to Kingsley (2006), 2.5 million articles are published in 24,000 refereed periodicals in a year.

Scientific communication process based on printed periodicals had operated without any problem until the 1970s. Periodicals, which started to be published by commercial publishers, have been regarded as commercial properties and their prices have been steadily increased. Although they cause important advantages in production and distribution costs, these increases have continued in electronic publishing. Publishers have considered electronic publishing an opportunity for increasing shares of profit and creating a monopoly (Competition Commission, 2001; Office of Fair Trading, 2002). Printed periodicals have been made pack-

ages partially or completely and put up for sale for only one price in electronic publishing, and so shares of profit of publishers have increased (Dilek Kayaoğlu, 2006, p. 31). Increases in price have always been over inflation rates for the last 30 years. The real reason for this is that there is a little rivalry in the sector and the prices are dependent on priority (and capacity) of seller rather than production costs. In spite of low costs of electronic publishing, this situation causes the subscription fees to become more expensive than the printed publications' subscription fees (Björk, 2004; Frazier, 2001).

Many libraries have found a solution by curtailing of periodical subscriptions. On the contrary, publishers have compensated for the incomes they lost by increasing the price of periodicals again (Tonta, 2005b). These negative developments in scientific communication have both caused disturbance in the concerned milieu and also created discussions on revising of scientific communication system. The scientists, who are both producers and controllers of scientific information and also consumers of scientific information, have started to express their thoughts on the idea that this situation, which is in conflict with universal characteristics of scientific information, can be overcome with technological opportunities. Thus, applications of new approaches providing free access to scientific information have begun. Whereas these applications called "Open Access" in literature were individual examples at the beginning, they have been transformed into an alternative publishing model that provides the frame conditions of traditional scientific communication later.

OPEN ACCESS: DEFINITION AND DEVELOPMENT

Open access, which is defined as "free access and unlimited usage" (PLOS, 2005) in the simplest way, firstly became a current issue in 2002. In 2002, *Budapest Open Access Initiative* was formed after of a meeting organized in Budapest in 2001 (*Budapest…*, 2002). Studies of this initiative led to the publication of the *Bethesda Statement on Open Access Publishing* in 2003. In the Statement, open access is defined and its principles are explained (*Bethesda…*, 2003).

Another development is *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities*, which was published in 2003 (Berlin…, 2003). According to this, "a complete version of the work and the all supplemental materials, including the copy of the permission, in an appropriate standard electronic format is deposited (and thus published) in at least on online repository using suitable technical standards (such as the open archive definitions) that is supported and maintained by an academic institution, scholarly society, government agency, or other well established organization that seeks to enable OA, unrestricted distribution, inter operability, and long-term archiving" (Berlin, 2003). The three basic features on which the open access publishing is based are: (1) unobstructed access to publications and usage permission, (2) storing of publication in at least one archive which has appropriate standards, (3) long term access to publications and protection guarantee.

According to Johnson (2004, p. 11), how open access publishing is realized and continued are described in these reports. Since the opportunities presented by technology are various, only one application type cannot be expected. Necessities and opportunities are effective in the model the procedure is realized and its scope. It is seen that scientific publications have been presented to the open access in three different models up to today:

1. *OA Journals:* This method, which started to be applied in the beginning of 1990s as a result of individualistic efforts, is the model that publishing the articles in an electronic periodical providing all users with reaching the articles on internet as free (Prosser, 2003). There are currently more than 3,600 OA journals published in all subjects (*Directory…*, 2008).

2. *Self-Archiving:* Self-archive is to deposit a digital document in a publicly accessible website, preferably an OA Initiative-Compliant Eprint Archive (*Self-Archiving...*, 2006).

3. *Institutional Repositories:* They are electronic repositories of submitted material that may include already-published articles (post-prints), pre-published articles (pre-prints), theses, manuals, teaching material or any other material that the authors or their institutes wish to make publicly available without financial or technical barrier. Such archives may be based on an institute's output, or may be discipline-based or regionally-based (Chan et al., 2005, p. 4).

Since the access to scientific publications that are presented to open access with any-one of these methods increases, the effect factor of publications increases, too. According to an analysis of reference effect ratio including 1,307,038 articles in 10 disciplines between 1992-2003 by Hajjem, Harnad and Gingras (2005, p. 42-43), it is determined that articles with open access have received reference three timed more than others.

In a research by Swan and Brown (2004, p. 34-36), 71% of the writers whose articles were in open access periodical for once, stated that they would continue application. Recently, some universities decided to mandate researchers to self-archive their published articles. A bill (Federal Research Public Access Act) mandating OA to publicly-funded scientific publications in the United States is likely to become enacted in the near future. The European Commission (EC) recommends OA to EC-funded research reports (European Commission, 2006, p. 87).

Chan and others (2005) explain the advantages of open access as following:

• Access to scientific periodicals will increase with the increase of open accessed publications.

• International access to the researches carried out in developed countries will be provided.

• That publications become more visible will add positive contributions to scientific productivity.

• Cite rates and impact factors of researches will increase.

• It will provide access to researches which have scientific value but have not been published in any periodical and these researches will be utilized.

OPEN ACCESS STUDIES IN TURKEY

Turkey got acquainted with concepts of open access and institutional archive with a declaration presented in a symposium in Ankara University in 2003 (Karasözen, 2003). In April 2003, The Middle East Technical University Library Electronic Theses and Dissertations Archive were established and became the first Turkish member of the Networked Digital Library of Theses and Dissertations. The METU Library ETD Archive has the full-texts of more than 4,800 theses and dissertations accessible through the Web[1]. In addition to the ETDs, the METU Library Open Archives Harvester has the full-texts of conference papers and other digital objects indexed from four archives[2].

In the Academic Informatics Conference held in Gaziantep in February 2005, a speech on open access was delivered (Tonta, 2005a). In the same year, the first experimental open access archive was developed in the frame of a doctorate course in Information and Records Management Department of Hacettepe University in 2004/2005 spring period. Firstly, index information of master and doctorate theses of the department was prepared according to Dublin Core standard and the archive was recorded in Open Access Initiative Registry (OAI Reg-

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[1] See http://ww2.lib.metu.edu.tr/en/yan.php?id=208 (08.09.2008).
[2] See http://hitit.lib.metu.edu.tr/oai/ (08.09.2008).

istry). Hacettepe University Open Archive has been the first initiative in this field (Tonta et al., 2006, p. 26-32). Unfortunately, the demonstration project was not followed up by other such projects and Hacettepe University missed the opportunity to set up the very first operational IR in Turkey (Tonta, 2008b).

A panel was organized on open access in the 10th Internet in Turkey Conference that was held in İstanbul Bahçeşehir University at the end of 2005, and academic open archive, which was set in Ankara University, was introduced (Atılgan, Arslantekin and Bayram, 2005). It later became the first operational institutional archive set up in Turkey and registered at OpenDOAR.[3] In addition to theses and dissertations, the Archive[4] currently contains over 3,600 items including peer-reviewed journal articles, conference papers, reports, dissertations, lecture notes and some other publications authored by the Ankara University faculty members (Tonta, 2008b)

At the end of the meeting, it was decided that Open Access National Policy should be created for the purpose of carrying out common works in forming institutional archive in Turkey. At the beginning of 2006, open access took place as one of the main themes in Academic Informatics Conference, which was held in Denizli, and a few session were held on the theme. A public opinion announcement which expresses that Turkish universities support open access and institutional archives formed in this concept was published at the end of the conference. In the announcement , presenting the results of researches, which are especially supported by public funds, and the publications to open access, forming universities' institutional archives with this aim and adopting Berlin Declaration in our country were suggested (Akgül, 2006).

At the end of the meeting, a Board of Open Access and Institutional Archives Counselors were formed as a concrete example of the announcement. The Board comprised members from ANKOS, the Turkish Library Association (TKD), University and Research Libraries Association (ÜNAK) and the Turkish Academic Network and Information Center (ULAKBİM). The Board, which was formed for the purpose of helping institutions in founding open archive, also formed a website with this aim[5]. Although some meetings were arranged later, there is not any study nowadays.

Also at the end of the same meeting, ANKOS announced the formation of its Working Group on OA and IRs.[6] Mission of the group was determined as "creating awareness of open access and institutional archives among information professionals in Turkey, providing ANKOS-information professional – researcher cooperation in the concerned applications, working in cooperation with the institutions working on this matter in Turkey and abroad". The Group prepared a brochure with this aim and sent it to the universities and the concerned institutions (*Bilimsel…*, 2006). Dictionary of open access, guide of institutional archive forming, free open archive software, and information about copyrights are put into service on website of the Group. Moreover, in the presentations made in various meetings, the effort of creating awareness of open access and institutional archives was continued.

These initiatives on open access were supported with declarations, articles published in periodicals and books presented in various meetings (for example, Karasözen, 2003; Atılgan, 2006; Dilek-Kayaoğlu, 2006; Oktar and Akdal, 2006; Polat, 2006; Tonta, 2006; Holt et al., 2006; Holt et al., 2007; Karasözen, 2007; Tonta , Ünal and Al, 2007; Atılgan and Keten, 2008). These studies with an aim of creating awareness on open access have initiated an activity in founding institutional archives especially in universities. Gazi[7], Sabancı[8], Atatürk[9] and

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[3] See http://www.opendoar.org (08.09.2008).

[4] See http://acikarsiv.ankara.edu.tr (08.09.2008).

[5] http://www.acikerisim.org.tr (Not active) (08.09.2008).

[6] http://www.ankos.gen.tr/acikerisim/index.html (08.09.2008).

[7] See http://www.acikarsiv.gazi.edu.tr/ (08.09.2008).

Atılım[10] universities founded institutional archives that meet OAI-PMH standards and Open Access search engines such as Open DOAR[11], OAIster[12] and ROAR[13] visit these archives. Anadolu, Bilkent, Boğaziçi, Çukurova, Dokuz Eylül and Süleyman Demirel universities have electronic theses and dissertation archives accessible over the Web for some time (e,g., Bilkent since 2001, Süleyman Demirel since 2003, and Anadolu and Çukurova since 2005).

In Turkey, full texts of articles published in some periodicals can be reached free although they are not appropriate for the necessary background and do not standards for open access. 12 scientific periodicals published by Turkish Scientific and Technological Research Council (TÜBİTAK) are in this scope[14]. According to a study, 238 (94%) of 253 scientific electronic periodicals, 60% of which is published by the universities, are open access periodicals (Küçük and Olcay, 2006). A part of periodicals, which are indexed in the databases by ULAKBİM, is open access[15].

ATATÜRK UNIVERSITY OPEN ARCHIVE SYSTEM

AUOAS began to operate as a result of a project which was presented at the end of 2007 under the leadership of academics of information and records management department and supported by Scientific Research Fund of the University. The purpose of the project was determined to be "to make institutional and national contributions to open access initiatives which began worldwide with the aim of unlimited and unhindered access to scientific publications". In this context, it is planned that by using software, which is appropriate for international standards aimed at archiving and sharing of electronic documents, scientific publications (thesis, article, declaration, report, etc.) produced by the academicians of Atatürk University will be opened to all world via internet. In this Project, which will be completed at the end of 2009, open archive system (OAS) has been still operating.

The software used for OAS was designed for founding institutional archive and storing every kind of documents in electronic environment. This software has the characteristics which provide searching, accessing, and preserving every kind of digital works of an institution (article, book, declaration, report, lecture notes, images, audio files, etc.) on web. OAS was formed by using Linux operating system and the concerned supporting software and PhP / MySQL. It supports Dublin Core metadata standards and Open Archives Initiative Protocol for Metadata Harvesting – OAI-PMH). It is also compatible with the standard of OpenURL. Therefore, there has not been any problem in integration of institutional archive into international open archive systems.

Besides these general characteristics for at preferring OAS, other special reasons can be explained as follows:

• OAS was prepared by taking into consideration the standards providing mutual cooperation in international level of open archives.

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[8] See http://research.sabanciuniv.edu.tr/ (08.09.2008).

[9] See http://acikarsiv.atauni.edu.tr (08.09.2008).

[10] See http://library.atilim.edu.tr/kurumsal/ (08.09.2008).

[11] See http://www.opendoar.org/find.php? search=&ctID=&ctID=&rtID=&cID=217&IID=&rSoftWareName= &submit=Search&format=summary&step=20&sort=r.rName&rID=&ctrl=new&p=1 (08.09.2008).

[12] See http://www.oaister.org/viewcolls.html (08.09.2008).

[13] See http://roar.eprints.org/?action=home&q=&country=tr&version=&type=&order=name&submit=Filter (08.09.2008).

[14] See http://journals.tubitak.gov.tr/ (08.09.2008).

[15] See http://www.ulakbim.gov.tr/cabim/vt/ (08.09.2008).

- The software language and all interfaces are Turkish. This situation enables the managers of the system and users to use the system easily.

- There are also English versions of each menu in the manager and user interfaces in OAS. This situation is an important characteristic supporting national and international usage effectiveness of the system.

- Continual maintenance and technical support guarantee can be taken from the software company. Access permission was given for distant intervention to the company and so the breakdowns in the system could be dealt with in the shortest time.

- OAS has been used by "Open Archive of Ankara University ", the first functioning open archive of our country, for nearly three years.

- OAS has been used by "Open Archive of Ankara University ", the first functioning open archive of our country, for nearly three years.

OAS software is established on a server used for only purposes of open access. Institutional adaptation of the system had been made by system managers before the system, which is put into service on web with IP number 194.27.49.90, was put into service. In this process, information about institution was firstly entered to the system. Necessary adaptations were made in the parts of archive main page, help and communication. All academic units, such as the faculty, college, institute or research center, of each user who will load publications to archive were recorded in the system.

Necessary regulations were made in the part of "System Content" of OAS software. Obligatory and non-obligatory parts and definition information, which need to be filled in for each publication type, were determined. Menus, in which the types, formats, themes of publications, types and titles of the writers of publications that would be put into archive are, were added to the system.

After completing the adaptation process of OAS Atatürk University, data entrances were made with trial aim. All possible combinations were tried in order to determine the problems that could occur in data entrances. For example, data about elements that could vary such as writers, assistants, titles, publication types, publication languages and publication formats were entered into the system in a crosswise position. The most important elements of open archive system were divided and tried as "search options ", "simple search ", and "advanced search". The problems were daily reported to the software company and, necessary regulations and changes were made. IP address, which had been determined before, was put into service on web on the address http://acikarsiv.atauni.edu.tr .

For integration of the archive to the international systems, application was made to OAI, and approval was obtained convenience tests. It was registered in archive search engines such as OAIster, OpenDOAR and ROAR and general search engines such as Yahoo and Google. There have still been 72 registers in the archive. Nearly electronic copies of 600 master and doctorate theses, which are permitted to be presented in open access, will be entered into the system after a short time.

After OAS began to function, informing meetings have been started in order to tell the importance of open access and open archives for universities and provide entering publication into its open archive for the university. The first of these meetings were arranged for the academics of the Faculty of Arts and Science. Then, an informing presentation was made for master students in the Institute of Social Sciences. These meetings, which have not been made for a long time due to the end of the academic year, will begin again with the start of the new academic year.

OAS has two similar interfaces. The first of them is the main page, which can be used without any register, and the second is the user page in which the registered users can see their

own accounts. There is a short text in which the characteristics and benefits of open archive besides "*publication inquiry*", "*help*", "communication", "*member entry*" menus in the main page. In this page, there is also a menu for displaying the system in English. Anyone who wants to search about documents in the archive does not have to use the user entry. The user can carry out search using "*simple*" and "*advanced*" search options, which are under the publication search. On the screen of "simple search" there are publication type, the name of work, the writer, and theme/summary/full text options. The user can make search with the one he prefers. In "*advanced search*", the users can make search in any field in the bibliographic register about the definition of publication. Since the fields were prepared as considering every kind of publication, all fields which could be used in publication entry were taken into consideration. Search results or lists are in common appearance in both two search types.

Those who will make data entry to OAS, can both make application in the menu of "*Member Entry*" for the user name and password and also enter with the user name and password which the archive managers send them. When any one of different publication types in the systems is chosen, data entry fields about the chosen type will appear on the screen. The user has to load and save full text file to the system after filling the necessary fields. After control and approval of the information on the publication and full text by system managers, publication will be put in the archive. The member users can see their publications by means of "*my publication*" menu in the system.

There are also various statistics collected in OAS. These are statistics about general information on usage and content, added publications, publication usage examination, questioning of the procedure and usage.

CONCLUSION

Studies on open access and open archives in Turkey have been effective in development in recent years. However, as Tonta (2008b) indicated, studies on open access have not reached beyond librarianship community, and in academic community, which is its real addressee, there has not been awareness of this subject. Whereas open access relates to librarians indirectly, it relates to scientists directly. Although millions of dollars are paid for buying scientific publications, open access is not even in the agenda of Higher Education Council (YÖK), TÜBİTAK, The State Planning Organization and most universities. All of the practices applied in the universities have been realized with self-sacrificing working of librarians. Unfortunately, the indifference of academicians in putting publications on open access has been the greatest problem.

A particular understanding has been formed in opening public funded works and publications to everybody's access in many countries. There are studies in making legal regulations, which bring obligation of storing publications in open access archives. In Turkey, there is not something like that in the concerned institution's agenda. Yet, most of the universities in Turkey are public universities. Most of the researches are also made with funds of the public. The state should pay for the periodical which it publishes in order to see the outcomes of research, and then to buy it. Imposing open access obligation in the researches done with public funds will solve the problem. Moreover, universities' various supports to publications with open access will be useful. Open access to scientific publications is an opportunity presented to science community by technology. The duty of scientists is to support such kind of activities as much as possible and even to join them.

Reaching the target of open access applications that are expressed as an alternative publishing method in scientific communication is possible with participants' cooperation. International constitutions like Open Access Initiative are result of unity in this matter. These kinds of constitutions have formed standards for providing open access to scientific publica-

tions at international level. It is obligatory to conform to these standards for reaching the targets of local applications.

AUOAS is a project started with the aim of supporting locally and nationally open access movement. Development of this institutional open archive, which was formed regarding international standards, has still been continuing. It is possible to evaluate the project realized in the leadership of the academics of the information and record management department as local reflection of sensitivity shown by librarianship on open access. Indifference of the scientists who are frequently mentioned in the literature is in effect in AUOAS. No publication has been added to the archive, which has been active for nearly eight months, except the publications of the project team and a few scientists who are especially interested in the subject. The project team determined its next goal as arranging introduction meetings about open access and open archive. Introduction meetings will be firstly arranged at the levels of faculty, college and institute. If the desired efficiency is not obtained, it is thought that separate introduction will be made for the departments.

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Effective System of Information Services for Agricultural Sciences: The National Agricultural Scientific Information Complex (NASICo)

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Ефективна система за информационно обслужване на аграрните науки – национален аграрен научноинформационен комплекс (НАНИКо)

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ABSTRACT

The establishment of a National Agricultural Scientific Information Complex is a necessary step towards the development of an effective system delivering information services to scientists and experts working in the field of agriculture in Bulgaria. The aim of the project is to create and maintain a network for exchange of information on the grounds of equal partnership between four key structures meant to deliver information services in the field of agricultural sciences, namely: Centre for Scientific and Technical Information at the Agricultural Academy in Sofia, Agricultural University in Plovdiv, Trakia University in Stara Zagora and University of Forestry in Sofia.The specialized software and modern equipment opens the path to freely apply new information technologies and improves the level of information services – hence being a prerequisite to create new databases and to deliver new information services. The development of union eletronic catalogues and union databases is the best way to expose the available information resources of partnering organisations. The shared subscription to specialised international databses secures access to global information resources. The construction of a specialized web portal facilitates communication with all categories of users of agricultural science information - scientists, experts, academic staff, students, etc.

Keywords: Network libraries; Union information resources; Web portal

РЕЗЮМЕ

Създаването на Национален аграрен научно-информационен комплекс е необходима стъпка за изграждането на ефективна система за съвременно научно-информационно обслужване на учените и специалистите от системата на земеделието в България. Целта на проекта беше изграждането и поддържането на мрежа за обмен на информация на базата на равностойно партньорство между четирите основни структури, осъществяващи информационното обслужване в областта на аграрните науки, а именно – Централна селскостопанска библиотека при Селскостопанска академия – София, и библиотеките на Аграрен университет – Пловдив, Тракийски университет – Стара Загора, и Ле-

сотехнически университет – София. Обединяването на електронните им ресурси в общи каталози и бази данни и мрежовият достъп до тях през Интернет допринасят за усъвършенстване на предлаганите информационни услуги и за повишаване на тяхната ефективност.

Ключови думи: библиотечни мрежи; обединени информационни ресурси; интернет портал

INTRODUCTION

How can research libraries operate effectively in the information environment of today? The library has to transform itself into an effective system for gathering, processing and delivering of information. It should be able to operate with different platforms and to use different technologies. The library needs to work in close cooperation with other organizations and information structures. Librarians should strive to transfer their sources and services into the network environment as much as possible (Tonta, 2007). The future of the library lies in the development of networks and ensuring web access to its resources. It is not that easy. Huge efforts are required to restructure completely the traditional library and transform it into a comfortable and useful entity, with a mission to facilitate dissemination of knowledge.

Globalization, accessibility of computer networks, and availability of different social structures in the information environment lead to the appearance of new information requirements and opportunities. Now the problem is not about access to information, it is about how to manage the continuously increasing information flows by means of modern network technologies (Харизанова, 2003).

Agricultural scientific information is necessary not only for scientists, professors and students, but for all specialists dealing with agriculture – farmers, experts and managers from different organizations, agencies, branch associations and companies. The main sources of such information (electronic or in paper) are accessible for users in the four big research libraries on the territory of the Republic of Bulgaria: the Central Agricultural Library of the Agricultural Academy of Sofia, Agricultural University of Plovdiv, Trakia University of Stara Zagora and University of Forestry of Sofia. Until now, each of them functioned individually and provided services to users within the respective scientific organization. Some of the resources of the libraries were available via the Web. The communication between the organizations was not regulated, there was no coordination in the acquisition of new information sources and in the performance of information activities. It was necessary to join their resources in a united information database, representing a wealth of national and foreign documents in the field of agricultural sciences.

THE NASICo PROJECT

We started the development of an integrated information system with the idea to expand and facilitate the access of users to specialized agricultural information with the financial support of the National Science Fund. The purpose of the project was to modernize the current available information complexes, coordinate their activities and integrate their resources into a National Agricultural Scientific Information Complex (NASICo), using the best practices for information servicing and retaining the already established communication between the partners. This long time dream of ours is now becoming a reality thanks to the joint efforts of our team with the support of the software solutions of SoftLib company and the technical equipment of PrimaSoft company.

The team in charge of project execution includes highly skilled specialists from all four libraries. This is the only thematic network for information exchange on the territory of Bulgaria that covers a whole sector of economics. The development and maintenance of the network is based on a consortium between the partners designed to regulate and coordinate all undertakings.

The main purpose of the project was to facilitate users in finding agricultural science information by providing network access to united electronic resources. There are two ways of searching for information: via an internet portal in which the union catalogues and databases are presented, on the one hand, and by means of "Hobit" terminal stations installed in the reading rooms of the libraries, on the other. The server is located at the basic centre in the Central Agricultural Library in Sofia. Remote access to the system is provided for the other three libraries.

Collections

The four libraries have rich collections of paper and electronic publications, distributed by type, scope and field of knowledge depending on the profiles of the libraries. Jointly, the information resources, which NASICo has available, comprise more than 900,000 volumes. The rate of growth of this collection is by more than 5,000 volumes per annum.

The united collections represent a wide variety of the different branches of agricultural science – they comprise 12 large fields of knowledge, each with a large number of individual sub-fields.

	CAL – SOFIA	AU - PLOVDIV	TU – STARA ZAGORA	UF – SOFIA
AGRONOMY	+	+	+	+
AGRICULTURE	+	+	+	
PLANT BREEDING	+	+	+	+
ANIMAL BREEDING	+	+	+	
VETERINARY MEDICINE	+		+	+
MEDICINE	+		+	
ECOLOGY	+	+	+	+
BIOLOGICAL SCIENCE	+	+	+	
FORESTRY	+			+
LANDSCAPE ARCHITECTURE	+			+
AGRICULTURAL ECONOMICS	+	+	+	
AGRICULTURAL TOURISM	+	+	+	
BUSINESS MANAGEMENT	+	+	+	+
FOODSTUFFS INDUSTRY	+			

Figure 1: Collections of the NASICo organizations, distributed by field of knowledge

Currently Available Databases

The total number of records in the bibliographic electronic databases in the complex exceeds 140,000. Each of the organizations has started to accumulate its electronic resources at a different period of time with some of them introducing also retrospective data in their electronic catalogues. There are local networks in all of the organizations.

Information Services and Exchange between Partners

The organizations offer identical information services, with the exception of one (the University of Forestry of Sofia) that did not offer access to the licensed full-text databases (see Figure 2).

INFORMATION SERVICES	CAL – SOFIA	AU - PLOVDIV	TU – STARA ZAGORA	UF – SOFIA
INFORMATION REFERENCES	traditional; via the new information technologies	traditional; via the new information technologies	traditional; via the new information technologies	traditional; via the new information technologies
ACCESS TO THE FULL-TEXT DATABASES	EBSCO	EBSCO and SpringerLink	EBSCO and SpringerLink	NO
INTER-LIBRARY LOAN	YES	YES	YES	YES
LOAN OF LITERATURE	YES	YES	YES	YES
BOOK EXCHANGE	YES	YES	YES	YES
COPYING, SCANNING AND PRINTING	YES	YES	YES	YES
INFORMATION BULLETINS	3		2	

Figure 2: Information services offered by NASICo partners

Modernization of the Complex

The supply of contemporary hardware and software in the organizations improved the level of the offered information products and services. The expansion and modernization of the information services was achieved by the unification of electronic information resources into united databases and provision of access to them via a Web portal. An electronic information depot has been developed on the basis of the existing electronic resources in the individual organizations. It has been amended via shared subscription of full-text and reference databases, containing agricultural scientific information.

Union Catalogs

The National Agricultural Scientific Information Complex has union catalogues for books, periodicals and dissertations. These catalogues contain bibliographic descriptions of each of the publications with additional information on which organizations, participating in the complex, have it available. This was achieved by means of technology and software environment, especially designed for this purpose.

Union Databases

Database "Analytical Descriptions of Scientific Publications". Available at http://ilib.cntibg.net:8181. The creation of a union electronic database with analytical descriptions of scientific publications was achieved by joining the respective electronic databases, maintained at the base organization and its partners. It became an exceptionally significant source for information bibliographical references and information packages on a specific subject.

"National Biobibliographical Database of the Agricultural Scientists". This database can be used for periodical printing of issues. The data on scientists within it shall be indexed automatically according to a scheme, specified by the organization for which they work. In addition to biobibliographical publications, this database can also serve for the formation of scientific teams for project accomplishment as well as for anniversary celebrations and other activities.

Information Portal

The web portal will be the entrance point to the union resources of the complex. It will provide possibilities for publication, search, exchange and sharing of specialized information classified by subject and aspects of a wide-ranging society of scientific workers and experts. This will be achieved on the basis of the following functions, integrated into the portal: news and messages, discussion forums, inquiries, event calendars, information about new books, thematic bulletins, databases with contents for downloading, questions and answers, etc.

The web portal will facilitate network access to the system – the resources will be available for users any time, any place, 24/7. This is of particular importance for users in the field of agriculture because they are located all over the country and do not have the possibility to visit the library very often.

Licensed Access to Information Databases

The consortium enables the four organizations to make shared subscriptions for specialized databases. The access to them is through the web portal, which facilitates searching.

The four organizations, participants in the complex, have access to AGRIS – the international information system for agricultural sciences and technologies under the aegis of FAO, with the Central Agricultural Library being the national authority providing for the participation of Bulgaria in the system by introducing abstracts of Bulgarian scientific publications in the field of agriculture and food industry.

The organizations of the complex are members of the Bulgarian Information Consortium (BIC) and they have a shared subscription to the databases of the EBSCO Publishing information system and for CAB Abstracts – the largest documentary database in the field of agricultural and life sciences.

Creation of an Integrated Hardware and Software Environment

Technical equipment (especially at the base organization) was completely depreciated and outdated. The system software used old versions, which were no longer maintained by the manufacturers and did not allow the installation of modern technical solutions. For this reason, the first step of realization of the project was to modernize the technical equipment and install the modules of specialized software in the four libraries. Now, the complex is able to utilize its full potential.

Information Searching System

Union catalogs and databases contain bibliographic description of the respective document and information as to which of the organizations in the complex has it. This has been achieved by means of the technology and software environment, especially elaborated for this purpose, i.e. - the information searching system **i-Lib 3.3**. It has been tested in the creation of three other union catalogues:

- *Union Catalogue "REGINA"* – includes the resources of the regional libraries of Plovdiv, Veliko Tarnovo, Bourgas and Sofia City Library
http://ruc.ilib.primasoft.bg

- *National Union Catalogue of Rare, Precious and Ancient Printed Publications* – includes the resources of the regional libraries of Plovdiv, Veliko Tarnovo and Kyustendil
http://ilib.libraryvt.com

- *Union Catalogue of Rare, Precious and Ancient Printed Publications* - includes the resources of different cultural and educational entities in Kyustendil http://sckn.primasoft.bg

The main advantage of the information searching system **i-Lib 3.3** is that only one enquiry provides the following information:

- Whether the required publication is available in the complex;

- Which library of the NASICo has it;

- What additional electronic resources are offered: contents, abstract and/or full text.

The users have the following options:

- To search for a document in all union resources at one and the same time;

- To use the electronic document delivery system for ordering full texts of documents in compliance with the respective copyright.

I-Lib is an online catalogue, designed especially for the presentation of library and documentary databases on the Internet/Intranet. Features include:

- Modern and user-friendly interface Internet users are accustomed to;

- Menus and online help both in the Bulgarian and English languages;

- Data search and visualization both in the Cyrillic and Latin alphabets;

- Modern methods of search for information;

- Searching in several electronic databases at one and the same time;

- Bibliographical descriptions have links to external files (full-text, scanned documents, images and sounds) and Internet addresses;

- A possibility to present the full-text content arranged by pages, issues, volumes, separate content and separate index via an integrated navigator;

- Printing of complete search results or user-selected bibliographical descriptions;

- An option to order literature.

Steps Accomplished

Up to now we have accomplished the following steps:

- Modernization of the available hardware;

- Implementation of the new versions of the integrated information searching system **e-Lib 3.2**;

- Installation of the software product **i-Lib 3.3** in the base organization for the creation and maintenance of the joint information resources of NASICo in the internet environment;

- Provide remote access for the partner organizations to the resources of the base center;

- Installation of the NASICo web portal at the base organization and provision of remote access to partner organizations for its regular updating;

- Training of the librarians to work with the new hardware and software.

RESULTS

Result Number 1

The main result of the project accomplishment is enrichment and modernization of information services as well as making them user-friendly. Now, with the help of the new information and communication technologies, users are able to:

• Search for a specific publication only once in a single electronic catalogue or database, without having to search one by one the websites of the individual organizations and without physically visiting the library buildings;

• Receive (upon request) a summarized result from the search on a specific scientific theme simultaneously from the Union Catalogue of Books, the Union Catalogue of Periodical Publications, the Union Catalogue of Dissertations and the Union Database of Analytical Descriptions of Scientific Publications;

• Select the closest and most convenient organization, from which to receive the required information as an original publication;

• Order the full-text of documents (paper copy or soft copy) by filling-in an online application form;

• Communicate with other scientists, working in the specific scientific area (using the "National Biobibliographical Database of the Agricultural Scientists") for the purposes of consulting, formation of scientific teams or other joint activities.

Result Number 2

The web portal serves as an additional information source, which informs the scientists about the news and events in the field of agricultural science and provides new opportunities for scholar communication. At the same time, the access of all users of agricultural information is improved.

Result Number 3

The realization of the project facilitates the work of the librarians at all four organizations as follows:

• The activities related to analytical processing of the periodical publications and digitization of the collections are distributed between the four libraries – in this way they are saving time and labour in the bibliographic description by exchange of ready records;

• The effectiveness of reference activities has increased – the time required for the elaboration of the bibliographical thematic definitions is shortened;

• The acquisition of the library collections is coordinated more efficiently – the doubling in the acquisition of periodical publications will be avoided. Until now, most of the subscribed titles of periodicals were doubled in the four libraries.

PERSPECTIVES

"Bulgarian Citation Index – Agricultural Sciences" Database

The next step in the development of the project will be the creation of the database "Bulgarian Citation Index – Agricultural Sciences." It will be exceptionally useful to scientists and academic staff for attaining of scientific rank as well as for the accreditation of the re-

spective scientific organizations. With the help of this database, scientists will have possibilities to receive information on the citations from their scientific publications in the Bulgarian scientific journals.

Evolving Development of Information Resources and Services

The information services rendered by NASICo will constantly improve as they are a function of increasing volumes of complex editions in the organizations. The development of the complex renders opportunities for the optimization of collection integration in the organizations both in terms of covered fields and copies available for use. At the same time, there are prerequisites for unlimited growth of the volume of electronic resources, including e-books, e-journals and publications with free access. The user software has been designed to process huge amounts of text documents. The purpose is a maximum accessibility of the collections.

The retrospective processing of information sources, i.e. retro-conversion of catalogues, continues. Digitization of valuable archive publications is planned as well as their upload on the Internet. The creation and making available digital collections of valuable archive publications will solve the issue of their preservation and make them accessible to a wider range of users, given the existing limited access to them at present.

Increased Demand for Library Services

Contrary to the current situation where the user has to visit the library, now it is the library that has to go to the user. The network access to information resources will increase the requests for specialized agricultural information. Thus, we shall retain our users that are no more in the reading rooms of the libraries but in the web space. In spite of decreasing visits to the reading rooms, the use of library funds and services will be increasing as users will have an easier and more convenient access to them – from the desktop of their PC, laptop or even the cell phone. It is a great convenience for the agricultural scientist, expert or producer because the information he needs will be available even in the field. It would be so much easier to order an article online and receive it by e-mail than to use the paper reprint in the reading room of the library.

Online delivery of information materials is also cheaper. The big advantage of online resources is that they can be used by multiple users simultaneously, therefore, the lower price of these services. Moreover, the user does not have to go to the library and wait on a line. This is even more convenient for students during exams when the interest to one and the same source is great. When there is an online access to these sources, the student immediately gets what he needs, sparing himself unnecessary pressure and stress.

The future tendency is to provide an access to a lot more publications, more and more in full-text. We shall be striving to increase the number of licensed databases, e-journals and e-books, offered for remote use. More than that, the complex will provide access to a number of other information resources on the web, such as specialized portals, personal index files and archives, practical instructions and financial information, etc. In this way the system we are developing will satisfy the dynamic needs of users and will consolidate its position as an efficient means of information request and scientific communication.

Training of Users

The web access to specialized information resources, as well as the new information services, imposes the need for their promotion and training of users. This is the new role of library institutions. We have already started carrying out practical demos and trainings of users in groups and regions around the country and this process will continue.

Open to New Partners

The technical, technological and software environment that has been developed allows the integration of other partners from similar organizations. The perspective is to create a *Union Catalogue of Agricultural Libraries*. Thus the complex will turn into a really national scientific information system that will serve all scientists, professors, students and experts in the fields of agricultural science, education and farming.

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Access to Electronic Resources and Practices of Bulgarian Libraries

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Достъпът до електронни ресурси в практиката на българските библиотеки

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ABSTRACT

Creating electronic pathfinders – organized introductory guides of various types of evaluated and selected web resources – is a possibility to optimize access to these resources, to increase libraries' collections and improve information services. The paper explores practices of Bulgarian libraries by analysis of their sites, through evaluation criteria used for selection and structure of created pathfinders. This is an attempt to appreciate their application in information services both for local and distance users.

Keywords: Electronic pathfinders; Websites; Access

РЕЗЮМЕ

Предоставянето на информация за електронните ресурси (платени и на свободен достъп) е направление, по което се работи усилено в чуждестранните библиотеки. Една от формите за достъп до електронните ресурси – подбрани и структурирани по строго определени критерии, е създаването на предметни пътеводители. Те осигуряват възможност за систематично търсене по качествени уебдокументи, сайтове, служби и др., а основната им цел е разширяване на ресурсната база на библиотеките и предоставяне на повече и по-качествени информационни услуги. Не случайно ИФЛА посвети Генералната си конференцията през 2003 г. на тази тема. Докладът цели да установи кои български библиотеки насочват дейността си в тази посока, като анализира сайтовете им да установи критериите, по които е извършен подборът на уебресурсите и структурирането им, а в резултат на това – да оцени приложението им в информационното обслужване както на локалните, така и на дистанционните потребители.

Ключови думи: електронни ресурси; уебсайтове; достъп; предметни пътеводители

Оптимизирането на достъпа до електронните ресурси е направление, по което в чуждестранните библиотеки се работи усилено. Резултатите от тази дейност често се изразяват в изграждането на предметни пътеводители. Създаването на такива пътеводи-

тели за печатни публикации е библиотечна практика, която започва от началото на миналия век, а самите пътеводители представляват анотирани препоръчителни списъци с материали по определена тема, чиято цел е да осигурят „стартова точка за изследвания". Терминът се дефинира като „списъци от основни и различни по вид справочни материали по специфични теми, предназначени да посочат организирана „пътечка" за търсене на информация", или като „информационни локатори за начално търсене". Като синоними се използват термините „предметни/научни указатели".

Появата на електронните документи, достъпни чрез Интернет, и преди всичко огромният им обем, предизвика необходимостта от създаването на електронни пътеводители. Те се появиха в средата на 90-те години на XX в., а основните предимства са непрекъснатият, 24/7 достъп, по-голяма нагледност и информативност, благодарение на възможностите на хипертекстовата информационна система World Wide Web (WWW).

Насоките за създаване на електронни пътеводители, които се дават в специализираната литература, са свързани главно с определяне на тематичния обхват, т.е. колко широк /тесен да бъде тематичният обхват, за да е ефикасно търсенето, и с отразяването му в Интернет ресурсите (topic selection); с изготвянето на критерии за определяне до какви уебсайтове да се предлагат връзки и те изрично да се посочват (inclusion criteria); с избор на потребителската аудитория и способи за следене на ползването (target audience); с избор на най-подходящ за бързо ориентиране интерфейс (design guidelines); с използване оценката на потребителите (user evaluation); с осигуряване на достъп чрез сайта на б-ката (accessibility); с възможността да служат освен за справочни цели и като средство за обучение (information literacy).

По-нататъшното усъвършенстване на електронните пътеводители е свързано главно с описанието на ресурсите, базирано на стандарти за метаданни, поради което те вече се определят като „служби в Интернет, които осигуряват систематично откриване на ресурси, осигуряват линкове към ресурсите (документи, сайтове, информационни служби и др.) и се основават на описанието им". Тази нова и най-често цитирана дефиниция е предложена от Т. Кох (Koch) през 2000 г. По-късно, за да изтъкне най-важната им характеристика – качественият подбор и описанието на ресурсите, Кох въвежда термина „качествено контролирани предметни пътеводители". Основните им характеристики са следните : подробно описание, основано на стандарт за описание на метаданни; използване на тезауруси, т.е. контролирани речници с предметни рубрики; систематизация на основата на класификационни схеми; текуща проверка и актуализация. Такива пътеводители се инициират и поддържат от консорциуми на библиотеки, най-често университетски, обикновено и с участието на националната и/или други научни библиотеки, като една библиотека или специално създаден орган координира дейността, следи прилагането на стандартите за описание, технологичното развитие и софтуера, съвместимостта и обмена на данните между участниците, качествения подбор, партньорите, използването и т.н. Добрите практики са много, но бих обърнала внимание на развитието на тази дейност в Австралия. Порталите (и те не случайно се наричат така) по предметни области, като Arigate (за селско стопанство), AustLit (за литература), AVEL (за устойчиво развитие и технологии), WebLaw (за правни науки) и др., както и създаденият специално за подпомагане на тази дейност форум The Australian Subject Gateways Forum (ASGF), получиха високата оценка както на специалистите, така и на потребителите.

Какво е положението в нашата страна?

През последните години редица библиотеки насочиха усилията си към подобряване достъпа до електронни ресурси. Акцентът е върху тези на открит/свободен достъп, а самите те се разглеждат като един от начините за разширяване ресурсната база за информационно обслужване. Липсата на практика по прилагане на стандартите за описание на метаданни, както и все още недостатъчната практика за описание на електрон-

ните ресурси чрез познатите стандарти, използвани в библиотеките, не ни позволява да създаваме такива средства в смисъла, който се влага в дискутираното понятие през последните години. Струва ми се обаче, че един преглед на положените усилия, макар и начални, ще ни помогне да се ориентираме къде сме и в каква посока да продължим усилията си.

За да установим съществуват ли подобни пътеводители, можем ли да говорим за такива или просто за списъци, които предлагат линкове към различни ресурси, анализирахме 29 библиотеки, като използвахме раздела „Български библиотеки“ от сайта на Българската библиотечно-информационна асоциация. Оттам избрахме Националната библиотека, трите научни библиотеки – ЦБ на БАН, Централна научно-техническа библиотека /ЦНТБ/, Централна медицинска библиотека /ЦМБ/, както и 25 университетски библиотеки. Изборът е съобразен с факта, че в практиката на развитите страни тази дейност се извършва именно от такива библиотеки.

Прегледът на уебсайтовете на тези библиотеки показа, че повечето от тях посочват базите данни по абонамент, а в отделен раздел предлагат списъци с адреси на подбрани електронни ресурси, преобладаващо на свободен достъп. От посочените общо 29 библиотеки 12 не поддържат такива списъци. Това са ЦМБ, Библиотеката при УНСС, Библиотеката на Университета по архитектура, строителство и геодезия, Библиотеката при Минно-геоложкия университет, Библиотеката на Аграрен университет – Пловдив, Технически университет – Варна, Варненски свободен университет, Библиотеката при Университет „Проф. Асен Златаров“ – Бургас, Библиотека „Тошко Мончев“ на колеж Добрич при Шуменския университет, Библиотеката на Техническия университет – Габрово, Библиотеката „Акад. Никола Михов“ на Стопанската академия – Свищов, Библиотеката на City University – Правец.

Обект на изследването са библиотеките, които поддържат такива списъци, като техните наименования са различни – полезни адреси, полезни връзки, връзки, някои полезни връзки, електронни ресурси, web справочник и др. Изследването следва последователността на представянето на библиотеките в споменатия раздел „Български библиотеки“.

Народна библиотека „Св. Св. Кирил и Методий“ (НБКМ)

Подбраните ресурси са включени в „Полезни адреси в Интернет“ и са структурирани в 5 раздела :

1. Виртуални библиотеки, указатели, портали

2. Машини за търсене

3. Виртуална справочна библиотека

4. Електронни текстове на свободен достъп

5. Електронни ресурси на свободен достъп по социални и хуманитарни науки

Първите два раздела са съобразени с възприетата в специализираната литература класификация на средствата за търсене в Интернет – виртуални библиотеки, указатели, портали, търсачки, метатърсачки. В тях са включени политематични и универсални средства за търсене, като се предлага електронният им адрес и кратка анотация. Интерфейсът на повечето от тях е на английски език, но са предпочетени тези, които включват ресурси от различни страни.

В третия раздел са включени адресите на електронни справочници, съдържащи главно фактическа информация. Стремежът е да се избегнат адресите на отделни институции, за да не бъде утежнена „виртуалната справочна библиотека“, поради което са

предложени портали и указатели, които препращат към най-често търсени институции. Включени са и речници, енциклопедии, справочници за съкращения, цитати и др. Достъпът до справочниците е свободен. Подборът е базиран на списъци на Интернет ресурси, препоръчани в специализирани издания или сайтове, като са предпочетени тези с международен или европейски обхват. Повечето справочници са на английски език, но са включени и някои български. Кратките анотации представят обхвата и съдържанието. Избраните тематични рубрики са съобразени с най-често задаваните въпроси и са подредени азбучно.

Четвъртият раздел предлага указатели на електронни текстове на свободен достъп, с подрубрики за книги, периодични издания или общо за различни източници. Обхватът е политематичен или универсален, повечето са на английски език. Придружени са с кратки анотации.

Петият раздел включва електронни ресурси на свободен достъп по социални и хуманитарни науки. Изборът на тези науки е съобразен с тематиката на подготвяните информационни продукти в НБКМ, както и с отрасловата специализация на нейните читатели и потребители. Ресурсите са представени по отделните дисциплини на социалните и хуманитарните науки, които са съобразени с УДК. Най-отпред са представени тези, които обхващат всички или няколко дисциплини. Във всеки раздел те са обединени в три групи:

- средства за търсене в Интернет (търсачки, указатели, портали, виртуални библиотеки и др.);

- библиографски бази данни;

- електронни текстове.

Представените ресурси са с международен обхват и на най-ползваните езици. Те са строго подборни, като подборът най-вече на библиографските бази данни е съобразен със стратегията за издирване в „невидимия уеб“. Оценени са като висококачествени според специализираните издания и служат като „отправна точка“ за по-нататъшни изследвания. Актуализират се периодично. Към всеки раздел се предлага кратък обяснителен текст.

Работата по издирване на електронни ресурси на свободен достъп в Националната библиотека започна през 2004 г. Принципите на подбор и откритите ресурси, преди всичко на „виртуалната справочна библиотека“, бяха представени на Деня на технологиите, организиран от БИК и ТУ - София, през 2005 г. Тези принципи продължаваме да спазваме и при изграждането на останалите колекции.

ЦБ на БАН

В рубрика „онлайн ресурси“, освен платените БД са включени линкове към три указателя за списания на открит достъп – DOAJ, High Wire Press, Scientific Journals International. Няма анотации.

ЦНТБ

Ресурсите са обособени в три раздела:

1. Библиотечни ресурси в България.

Тук са включени адреси на научни, университетски библиотеки и библиотеки към висши учебни заведения, обществени библиотеки, библиотеки към министерства, други ведомства и организации.

2. Библиотечни ресурси по света.

Организирани са в две части – „Световноизвестни библиотеки", където са включени адреси на най-големите библиотеки, и „Информационни ресурси", където се предлага много богат списък с адреси на библиотечни асоциациии, мрежи, информационни центрове и доставчици.

3. Виртуална библиотека.

Състои се от две части:

 - „Български пълнотекстови ресурси на свободен достъп" - това са основно адреси на електронни периодични издания по следните области: естествени и приложни науки; медицина и биотехнологии; информационни науки и компютри, строителство и енергетика, икономика, бизнес и финанси, обществени науки и политика, образование.

- „Световни онлайн ресурси на свободен достъп" - богат списък по широк кръг дисциплини. В първата част – политематични ресурси, са включени много указатели към безплатни списания и книги, както и адреси на отделни списания. В останалите области - медицина, биология, физика, химия, математика, информационни технологии, икономика - преобладават адреси на отделни списания, но са включени и достатъчно указатели и каталози.

Ресурсите в посочените части са съобразени до голяма степен с потребителската аудитория.

Библиотека на Софийския университет „Св. Климент Охридски"

В „Ресурси" са включени библиотечни ресурси в два раздела: онлайн и офлайн ресурси.

Онлайн ресурси са разделени на 1.Пълнотекстови, 2.Библиографско-реферативни и за цитирания (всички платени)/ и 3. Безплатни онлайн информационни ресурси. В третата част – „Безплатни онлайн информационни ресурси" са включени 15 политематични и отраслови портала, каталози, библиографски БД, отворени архиви на пълнотекстови списания. Кратката анотация ориентира в съдържанието им.

Отделно библиотеката поддържа т.н. Web справочник. Тук се предлага кратка информация за *видовете* български и чужди ресурси: тематични електронни библиотеки с пълнотекстова информация, сайтове на значими научни институции, сайтове на големи университети, библиотеки и изследователски центрове, за *структурата* (21 тематични категории), *броя* на сайтовете (494) и *възможностите за ползване* (прелистване на записите в съответната категория или търсене по ключови думи в целия web справочник във всички полета на записите).

Категориите са съобразени със специалностите в СУ, а последните две предлагат справочни и библиотечни ресурси. Към всяка категория е посочен броят на ресурсите, които са основно адреси на електронни периодични издания по посочените области. Категориите са следните: философия (34); психология (25); социология (13); политология (26); богословие (19); право (70); икономика (38); история и археология (15); славянска филология (8); медицина (15); класически и нови филологии (4); география и геология (5); педагогика (6); математика и информатика (5); журналистика и масова комуникация (70); физика (15); химия (12); биология (75); музика и изобразително изкуство (5); справочни ресурси (15); библиотечни ресурси (13).

Библиотека при Нов български университет

В „Електронни ресурси" са включени само Google book search, Google Scholar, World Cat.

Библиотечно-информационен комплекс - Технически университет, София

В „Полезни връзки" се предлагат указатели и каталози на ресурси на открит достъп, основно списания – политематични и за технически науки, компютърен речник, енциклопедия. Към всеки от тях има анотация, взета от съответния указател. Подборът е съобразен с потребителската аудитория.

Библиотечно-информационен център - Химико-технологичен и металургичен университет:

В „Полезни връзки" се предлагат три указателя: Blackwell Publishing, Google Scholar, Bentham Open Access.

Библиотека при Пловдивски университет „П. Хилендарски"

В „Някои интересни адреси" се предлагат адреси на отделни министерства, специализирани портали, портали за списания на открит достъп. Подборът е неясен; няма тематични категории.

Библиотечно-информационен комплекс при Медицински у-т – Пловдив

В „Онлайн ресурси" са включени няколко портала и сайтове с електронни списания на свободен достъп, главно медицински.

Библиотека при Американския университет

Ресурсите са структурирани в две части: онлайн справочници и онлайн бази данни (платени и няколко безплатни); Към онлайн справочниците е включен указателят *Bulgaria - Web Directory*, който включва внимателно подбран списък от справочници, портали и отделни адреси с авторитетна информация по всички отрасли. Рубриките са следните: общи ресурси, бизнес, търговия, икономика, култура, образование, посолства, география и околна среда, правителствени органи, политика, право, здравеопазване, история, език и литература, библиотеки, местна информация, медии и комуникация, карти, организации, отдих и туризъм, религия, наука и технологии, търсачки, указатели. В търсачките и указателите са включени най-важните универсални и отраслови български средства за търсене в Интернет.

Библиотека на Русенския университет

В раздела „С какво можем да ви бъдем полезни?" се предлагат информационно-търсещи системи на отворен достъп, където са включени само DOAJ и ProQuest Digital Dissertations.

Библиотека при Икономическия университет – Варна

В „Полезни връзки" са включени следните рубрики: Бази данни, Организации, Списания, Икономика, Интернет търсачки, Статистика, Интернет справочници, Банки и финанси, Университети. В първия са включени платените бази данни, а в следващите –

подбрани сайтове на безплатни ресурси, които са съобразени със специалностите в университета. Към всички има кратка анотация на български език.

Медицински университет – Варна

Във „Връзки" се предлагат ресурси в следните пет раздела: Библиотеки; Висши учебни заведения и научни институции; Правителствени страници и страници на други държавни организации – всички ресурси в трите категории са български. Четвъртата категория – „Медицински бази данни", включва базите данни по абонамент. Интерес представлява петата рубрика – „Медицински web страници", в която са включени портали, индекси, каталози и др. на платени и безплатни чужди ресурси, основно на английски и руски език.

Библиотека при Бургаския свободен университет

Рубриката „Полезни Интернет страници" е в два раздела:

- Електронни издания – тук са включени български вестници, списания и книги

- Тематичен справочник – в него са включени адреси на институции, информационни системи, специализирани периодични издания, портали, отделни справочници и др. в следните категории: Право; Правни институции; Европа; Икономика; PR и медии; Хуманитарни; Технологии; Държавни институции; Други институции; Неправителствени организации; Фондации.

Библиотека на Тракийския университет

В „Свободни електронни ресурси" се предлагат две категории адреси: на публични електронни библиотечни каталози и на онлайн ресурси на свободен достъп, където са включени няколко общи и специализирани портала.

Библиотека при Великотърновския университет

В „Полезни връзки" се предлага сравнително богат списък с адресите на български и чужди библиотечни каталози, портали, търсачки, електронни архиви, основно по хуманитарни и социални науки. Всички ресурси са анотирани, но няма определена структура – ресурсите не са обособени по видове или тематични категории.

Библиотека при Шуменския университет

Във „Връзки" са включени адреси на няколко български министерства, библиотеки, портали, сайтове за български електронни каталози.

По-нататъшното проучване на списъците с електронни ресурси на свободен достъп на уебсайтовете на избраните библиотеки беше съобразено със следните **показатели**: наличие на анотации; систематизация на основата на класификационна схема; предметизация; начин на описание; брой рубрики и подрубрики. Какви са резултатите?

Почти всички библиотеки предлагат само електронния адрес на избраните от тях ресурси; нито една библиотека не систематизира ресурсите чрез класификационна схема (известно изключение прави НБКМ в последния раздел); нито една библиотека не използва дескриптори (термин или някакъв символ за означаване на тематиката); направени са опити за използване на предметни рубрики при малка част от библиотеките, но броят на рубриките, с малки изключения, е ограничен; нито една библиотека не описва ресурсите чрез стандарт за метаданни; повечето от библиотеките посочват няколко, а в

някои случаи и голям брой линкове към ресурси, без обаче да ги структурират. Ако е направен опит за това, то най-често се използва формата на електронния ресурс – напр. периодичните издания, без значение на тематиката, се обединяват в рубрика „Периодични издания". Подборът на ресурсите е неясен, не се посочват критерии, към които библиотеката се придържа. Единственият начин за описание на ресурса е анотацията. В повечето случаи ресурсите са съобразени с потребителската аудитория, а при университетските библиотеки - с учебното съдържание на изучаваните специалности.

По-сериозен опит за структуриране и подбор на ресурсите е направен от Народна библиотека „Св. Св. Кирил и Методий", Централна научно-техническа библиотека, Университетска библиотека и Библиотеката при Американския университет. „Web справочникът" на последната библиотека е само за български електронни ресурси, поради специфичните нужди на студентите от този университет. Затова по-обстойно ще бъдат анализирани списъците на останалите три библиотеки. Това, което отличава тези библиотеки от останалите от гледна точка на настоящето изследване, са, от една страна, опитите за разкриване на съдържанието на ресурсите чрез включването им в тематични рубрики и предоставяне на по-подробни анотации, а от друга страна, по-сериозният подход към подбора. В този случай можем да говорим вече не за списъци, а за колекции от подбрани ресурси.

Използваният подход за структуриране на подбраните ресурси в трите библиотеки е различен. НБКМ е избрала това да стане на основата на класификацията на видовете средства за търсене в Интернет, възприето в специализираната литература, с изключение на „Виртуалната справочна библиотека", където рубриките са съобразени с най-често задаваните от потребителите въпроси и са подредени азбучно. Последната посочена колекция съчетава посочения метод с отраслово разпределение, което най-общо следва разпространената схема за библиотечна класификация – УДК.

ЦНТБ и Библиотеката на СУ „Св. Климент Охридски" използват тематични рубрики, които при първата библиотека (ЦНТБ) са съобразени най-общо с разпространената (небиблиотечна) класификация на науките у нас, а университетската библиотека прави собствени тематични рубрики, съобразени с основните специалности в учебното заведение. Макар и кратки, и трите библиотеки предоставят обяснителни текстове, като НБКМ пояснява, макар и най-общо, критериите за подбор. Струва ми се, че само НБКМ следва принципа да включва само „отправните точки" – т.е. портали, указатели и т.н., като избягва да включва отделни адреси (на периодични издания, институции и др.), за да не претоварва потребителите с голям брой адреси.

Какво показа прегледът на подбраните ресурси от гледна точка на подбора? И трите библиотеки включват:

- най-големите универсални и политематични архиви на електронни списания на свободен достъп;

- най-големите портали за електронни книги на свободен достъп;

- най-големите универсални и политематични търсачки, указатели и портали;

- ОPAC на най-големите световни библиотеки и WorldCat.

ЦНТБ и библиотеката към Софийския университет дават и много адреси на отделни периодични издания по всички тематични области. НБКМ е предпочела отраслови бази данни на периодични издания (главно в последната колекция).

Почти 2/3 от предлаганите адреси се повтарят. Това, от една страна, говори, че са открити най-обхватните и качествени ресурси; от друга – за необходимост от издирване на нови ресурси, съобразени със спецификата на библиотеките.

Какви са препоръките в специализираната литература за подбор и оценка на електронните ресурси? Публикациите по този въпрос са изключително много, но ако обобщим основните, то подборът се свежда до ресурси с авторитетна, актуална, точна, обективна, „скроена" според нуждите на потребителя, информация. Основните индикатори тук са дали информацията е от официални източници, от първични или от вторични източници, т.е. дали представя оригинално или компилативно изследване, каква е квалификацията на автора, цитират ли го, има ли информация на сайта, която да удостовери верността на данните, кога и колко често се актуализира ресурсът, предоставя ли конкретна информация или препраща към други линкове. Тези критерии са много важни, тъй като основните проблеми с информацията днес са свързани с обема, а оттам и с оценката й. Повече информация не означава по-качествена; от друга страна информацията е навсякъде, но къде е знанието? Новите форми на комуникация означават повече информация, която да бъде оценена. В допълнение към огромния обем и подвеждащата информация, тези нови форми на публикация и комуникация едновременно опростяват и усложняват събирането и разсейването на информацията. Затова именно се развиват средства и услуги за оптимизиране на достъпа, чиято ефективност зависи в много голяма степен от подбора и организацията на ресурсите в тях.

В каква посока би трябвало да насочим усилията си?

• Преди всичко, изучаване на добрите библиотечни практики – те, отново подчертавам, са много. Почти всички чужди национални и големи научни библиотеки изграждат колекции от разглеждания тип. Все пак бих посочила няколко:

o колекцията от електронни справочници на Славянската библиотека към Университета в Илиноис „**Online Reference Collection" -** http://www.library.uiuc.edu/, с внимателно подбрани не само справочници, но и тематични рубрики

o INFOMINE - прекрасен пример за корпоративните усилия на над 30 библиотекари, които са включили описания на бази данни, електронни списания и книги, списъци и новини, онлайн библиотечни каталози, статии, указатели, търсачки, справочници и много други електронни ресурси от всички области на знанието. В записа на всеки ресурс, основан на Dublin Core, освен неговото название, анотация и Интернет адрес, влизат предметни рубрики и ключови думи

o „Регистр полнотекстовых и библиографических ресурсов Интернет для библиотек" – http://resource.rsl.ru/index.php - проект за създаване на универсален виртуален пътеводител по библиографски и справочни източници на Руската държавна библиотека, като описанията са базирани на Dublin Core и електронния пътеводител на Руската национална библиотека „Информационные ресурсы в сети Интернет" www.nlr.ru/res/inv/ic/index.php – първият опит на РНБ по каталогизация на електронните ресурси в Интернет. Интересен е опитът при последната рубрика – „Общодостъпни бази данни", където са включени руски и чужди бази данни, безплатно достъпни чрез Интернет. За описанието е разработено стандартизирано описание на основата на ГОСТ 7.70-96 „Описание баз данных и машиночитаемых информационных массивов", като стандартът е адаптиран за БД online.

• Наред с това, изключително важно е изучаването на стандартите за метаданни и възможностите за прилагането им при пътеводителите – тук ние нямаме никакъв опит.

• Кооперирне на усилията – успешният опит показва, че в началото отделни библиотеки започват да извършват тази дейност самостоятелно, а дейността се свежда до съставяне на анотирани списъци на ресурси. Скоро обаче се убеждават в необходимостта от кооперирне на усилията, тъй като се изисква огромна работа по издирването,

оценката и описанието на ресурсите, както и на оптимизиране на търсенето, което е непосилно за отделна библиотека.

В заключение – струва ми се, че началото по създаването на електронни пътеводители за ресурси на свободен достъп у нас е поставено. За да достигнем до качеството на най-добрите примери, е необходима още много работа.

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Making Learning Visible: Web 2.0 tools, E-Portfolios and the Assessment of Student Learning Outcomes

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Обучението става видимо: Инструменти на Web 2.0, електронно портфолио и оценка на резултатите от обучението на студентите

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ABSTRACT

Typically, an e-Portfolio contains work collected, reflected, designed, and disseminated electronically in order to demonstrate individual learning over time. However, e-portfolio systems can lack flexibility, peer review opportunities, and collaboration options that are all critical components of the learning process. Web 2.0 technologies offer powerful ways for combining the traditional aspects of e-portfolios with enhanced ability to collaborate and the ability to manipulate the connections and links between sets of information. This presentation will discuss the potential for use of Web 2.0 technologies as modified e-portfolios in the assessment of information literacy learning outcomes. Through collaboration with faculty, it is then possible to capture not just finished products, but evidence of process and reflection.

Keywords: Learning outcomes; Assessment; Web 2.0; e-portfolio

РЕЗЮМЕ

Обикновено едно електронно портфолио съдържа събрани и оценени работи, които се разпространяват по електронен път, за да демонстрират наученото от някой в течение на времето. Системите за електронно портфолио обаче може да не бъдат достатъчно гъвкави, да не предоставят възможности за професионално рецензиране и опции за съвместна работа, които са важни съставни части на процеса на обучение. Технологиите на Web 2.0 предлагат убедителни подходи за съчетаване на традиционните аспекти на електронното портфолио с повишената възможност за сътрудничество и гъвкавост на връзките и взаимозависимостите между отделни набори от информация. В тази презентация ще се разискват възможностите за използване на технологиите на Web 2.0 като видоизменено електронно портфолио при оценката на резултатите от обучението за информационна грамотност. Възможно е, при сътрудничество с преподавателите, да се събират не само завършените продукти, но и сведенията за процеса на създаването им и за тяхното отразяване.

Ключови думи: резултати от обучението; оценка; Web 2.0; електронно портфолио

INTRODUCTION

The last decade witnessed a substantial increase in the number of academic and school libraries developing information literacy/fluency initiatives and programs. One of the foundational principles of such plans is the achievement of measurable results that document and verify learning. In its "Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline," the Association of College and Research Libraries (ACRL) defines what components are necessary for a successful assessment plan. Best practice consists of ongoing improvement and direct assessment *of* learning (summative) and assessment *for* learning (formative) structures. This goal dovetails with overall demands for accountability in higher education and a move towards outcome based assessment standards for graduation and accreditation at the institutional level. Just as librarians are interested in accurate methods of assessing their impact on student learning, educators and administrators, too, struggle to devise workable methods of assessment (Phelps and Diller, 2007).

These important trends create compelling opportunities for libraries to reposition and redefine their significance within the academy. But despite the increased demand, the actual development of methodologies for assessment at the assignment and at the course level remains a persistent challenge. As libraries focus on the potential for information literacy assessment that authentically measures student learning, the possibilities are diverse and complex, with a range of available tools and models. Whenever issues of assessment arise, there is a tendency to fixate on the simplest and easiest tool to implement and evaluate. Often, this is some form of standardized testing in an online environment. However, there are real concerns over focusing on testing, as it centers education on "teaching to the test" and enhancement of test-taking skills rather than genuine learning (Love et al, 2004).

Traditional	Authentic
Indirect Evidence	Direct Evidence
Teacher-Structured	Student-Structured
Selecting a response	Performing a task
Contrived	Real life
Recall/Recognition	Construction/Application

Table 1: Traditional versus authentic assessment
Information from the Authentic Assessment Toolbox
http://jonathan.mueller.faculty.noctrl.edu/toolbox/

Digital technologies promise viable alternatives to the limitations of high-stakes testing and allow for the opportunity to explore authentic assessment concepts (Table 1) that require students demonstrate learning through performance activities. Currently, one of the most widely used digital options for learning evaluation is the e-portfolio. E-portfolios provide for multiple assessment types: authenticate, formative and summative. Academic Libraries nationwide are experimenting with this tool in order to document information literacy learning outcomes. But even as successful work continues, recent developments in Web application architecture illustrate some of the limitations of standard e-portfolios tools. These new technologies, commonly referred to as Web 2.0, are freely available and often very familiar to students. Integrating these applications to build alternative assessment models or to maximize existing e-portfolios has great potential. Both option serves to enhance the creation of in-

ventive course and program assignments that result in digital products and the opportunity to assess both that final product and the student learning process.

UNDERSTANDING TRADITIONAL E-PORTFOLIOS

An e-portfolio is a digitized collection of artifacts including resources and accomplishments that represent an individual, group, or institution. The use of portfolios as a pedagogical approach involves documenting student work over a period of time. Student e-portfolios are digital products that spun off from the print-based portfolios of the 1980s and gained prominence in the mid 1990s. In general, e-portfolios serve to assist students in becoming critical thinkers and support their writing and multimedia communication skills. Often these items are organized around specified learning goals, and as a form of project based learning, help build information literacy skills (Lorenzo and Ittelson, 2005). The materials in an e-portfolio are usually self-selected with a component of reflection. Personal reflection is one of the real strengths of using portfolios, as it provides both evidence of learning and insight into individual learning process (Phelps and Diller, 2007).

Work with traditional e-portfolio products typically occurs in conjunction with assessment rubrics, designed around learning outcomes and performance indicators. Not only does an e-portfolio build a record of learning, growth, and change, it also provides meaningful documentation of individual abilities. According to Buzzetto-More (2008), portfolios can demonstrate:

- mastery of curriculum goals;

- ability to think critically;

- ability to search for, locate, analyze and evaluate information;

- ability to use information strategically;

- ability to synthesize concepts and present ideas;

- effective use of technology to assemble ideas and communicate; and

- engage in self-reflection and evaluation (Buzzetto-More)

One prominent example of e-portfolio and information literacy learning outcomes assessment is taking place at Washington State University (WSU) in Vancouver. A newly created University General Education Program includes an information literacy goal and the use of an e-portfolio assessment tool, the Learning Goal Matrix (Phelps and Diller, 2007). The WSU program integrates information literacy assessment into the campus' overall goals and directly measures student progress on meeting the goals of the program. The Learning Goal Matrix allows students to add two, self-selected pieces of evidence for each general education learning goal. Students then reflect on each piece of evidence. Librarians serve on the rating committee to lend specific expertise in analysis of the information literacy based outcomes.

The project at WSU resulted from a campus wide assessment initiative that included the libraries from the outset. However, those comprehensive opportunities for institutional level information literacy programs are still the exception, not the rule. It is far more common to see a set of assignment or capstone portfolios at the course or program level, looking for evidence of student learning on a more specific level.

CHANGING WITH THE TIMES

No matter what the scope of the project, e-portfolios can be a beneficial component. However, this tool is not always an available option for librarians and instructors. Not all in-

stitutions can purchase or develop complex e-portfolio tools. Additionally, there are recognized limitations of the traditional products. Studies have shown that many systems lack flexibility, peer review, and group collaboration elements. Without these features, e-portfolios do not have the benefits of social learning (Zhang et al., 2007). Additionally, they do not always capture that "fleeting material; those conversations, negotiations, and sketches on napkins that are at the heart of problem solving." Capturing this additional insight into learning growth can offer understanding of the strategies used to tackle a problem (*Making Learning Visible*, n.d.). Yet this is generally lost in the e-portfolio focus on final product.

The emergence of new web 2.0 technologies opens the door to a low cost, more interactive experience, well suited to demonstrating and assessing information literacy skills. Web 2.0 applications emphasize user control and flexibility, with the potential for capturing process as well as product. Wikis, blogs, tagging, and social networks are designed for users to self-publish content such as photos, opinions, citations, calendars, artwork, bookmarks, interests, theories, or anything else that can be transferred into a digital format (Ernst, n.d.). As a result, it is possible to use these tools to meet many of the demonstration goals of an e-portfolio, with the added benefit of greater access to stages of learning and social interactions. Helen Barrett has written and presented extensively on the potential in such web 2.0 models and describes processes for integrating outcomes tied to the creation of digital product as well as the use of assignment, course and institutional rubrics. In *Technology Tools that Engage Learners in Reflection,* Barrett (2005) noted that technology tools such as "blogs, reflective journals, online discussions, self-report surveys, and digital storytelling" can engage learners in reflection, support learning, and create a new form of portfolios.

There are numerous pedagogical and practical strategies for successful implementations of web 2.0 tools. These are similar in form and function to the use of e-portfolios: rubrics, elements of self-reflection and self-selection of representative materials. But the work is made deeper and more substantial by the inclusion of social learning and the documentation of the learning process. Implementation and use can vary. It can consist of simply enhancing existing e-portfolio environments through supplemental integration of tools ranging from blogging to social bookmarking. In the absence of a central portfolio product, various Web 2.0 environments and projects can be interlaced together to create a viable portfolio alternative. It is also possible to use these various tools independently for authentic assessment of learning.

Each model provides a framework for reconciling process, content and learning outcomes through the "interplay of individual performance and the social construction of knowledge" (Richards). This approach encourages students to be more active, reflective and engaged learners. The added benefit of such tools is that simply utilizing them to complete an assignment expands information literacy and technology fluency skills. For librarians, assignments that make use of web 2.0 functionally present options for increased collaboration with instructors and expanded roles in a course, including assisting in assignment design, rubric creation, grading and evaluating.

SOME OF THE TOOLS AVAILABLE

Blogs

"Blog" is a shorthand term for "Web log." These are online, often chronological collections of personal commentary and links. Blog entries may include text, images, links to websites, links to multimedia files, and more. The blog owner can allow others to post comments to the entries. Blogs offer students and faculty a new opportunity for interaction with peers and provide a place for discussion that moves past coursework to include politics, social issues and other areas of exploration. "Students often learn as much from each other as

from instructors or textbooks, and blogs offer another mechanism for peer-to-peer knowledge sharing and acquisition" (ELI Discovery Tool, n.d.).

It is possible to create diverse types of blog assignments that match both curricular and information literacy goals for student learning. Individual student blogs can be used in ways that are very similar to an e-portfolio. Students post journal entries, such as thoughts on a reading or a field experience, reflect on their learning, and allow peer review and input. Over a semester or even over a full program of study, reflective blog entries demonstrate student growth, content understanding, and skill integration. Through these entries, instructors also have the opportunity to discover where students may have confusion, doubt, or uncertainty in conducting research, finding sources, and effectively using the material found. Group or collaboratively developed blogs stimulate discussion and reflection outside the classroom in relation to a topic, resource, or reading. Like all of the Web 2.0 tools, blogs provide a means for documenting both product and process. Blogs are particularly effective at providing a forum for reflection and self-evaluation on a variety of assignments.

One of the more common information literacy assignments is the "research journal." This pen and paper assignment requires the student to document their research process; from keyword generation to final product. It usually includes terms used, databases search, and items discovered. It also typically requires self-reflection on the process and the perceived success or failure of the student's attempts to find needed information. This assignment can easily be modified for a blog, with detail on process and personal reflection. There is also interesting potential for students to select entries across multiple courses that they feel best demonstrate growth and learning. Used more broadly, blogging can let both instructors and students explore the legal and ethical use of information, copyright, and privacy.

Collaborative Writing Tools

There are a variety of on-line technologies that facilitate the editing and reviewing of text documents by multiple individuals, either in real-time or asynchronously. Online, web-based writing tool offer great flexibility as they provide an easy way to develop writing projects in a fully collaborative fashion. As a result of transparent access to the process of the student's work and interactivity, "you can see what students are doing as they are doing it.... you know what is going on, and you can see from the interaction they are having and the contribution of material…." (Briggs, 2008).

Collaborative writing tools vary a great deal and can range from the now familiar wiki format to more advanced systems. Basic features include the simple formatting and editing facilities of a standard word processor with the possible addition of live chat, live markup and annotation, co-editing, version tracking and more. There are a many products that fall into this group, some free and some subscription based services.

Wikis are one of the more popular forms of online, collaborative authoring. The fact that wikis save a history of every page makes it possible to review, and if necessary restore, an earlier state of the draft. A wiki page usually has a "discussion" page associated with it, so that instead of constantly re-editing work, students can keep debate behind the scenes. The discussion page can also be the place where students explain to one another why certain changes were made or an instructor can comment on the project as it develops (CITT Toolbox, 2008).

Google has recently entered this field with Google Docs in a suite of applications for online collaboration. This set of tools allows groups to share changes to documents, spreadsheets, and presentations in real time. The documents generated are always accessible to all editors and can be easily downloaded and exported in standard word processing file formats. Zoho Writer is another collaborative editor that lets users create documents and share them publicly or privately. The interface is intuitive and allows for the import any existing docu-

ment. Zoho Writer also provides for the ability to export text in several formats, such as PDF, ODT, Word, HTML, and others.

All of these collaborative tools are designed to enable the instructor to track submissions and changes to group projects and for students to collaboratively write assignments. Each is a low cost but effective communication and collaboration tool that provides many of the same features of an e-portfolio while promoting revision, tracking of drafts and peer edit and evaluation (CITT Toolbox, 2008). All of these elements contribute to authentic assessment of information literacy and other learning outcomes. Potential information literacy centered assignments include team generated annotated bibliographies and student- created research guides on specific, course related topics.

A common example assignment actually incorporates the use of Wikipedia. In this model, the instructor asks students to critique an entry that contains errors or omissions. Students then do the research required to correct the entry. In this one lesson they learn to use critical thinking to evaluate what they find online, research and write up an article for publication that can be reviewed by their peers.

Link Sharing: Tagging and Social Bookmarking

Tagging/social bookmarking refers to storing, sorting, classifying, sharing, and searching through a collection of bookmarked links of web pages, images, videos, and audio files that are stored on the Internet. The categorization and review of links creates a folksonomy of information that the user and other users can view on the Internet. Social Bookmarking is done via a hosting website such as Del.icio.us, Furl, Netvouz, Ma.gnolia, and Bluedot (CITT Toolbox).

Tagging and social bookmarking possess exciting possibilities for developing and documenting information literacy skills. The collaborative research that is possible helps teach students critical knowledge management skills and provides a product for reviewing, reflection, and evaluation. Additionally, such tools allow faculty and students to access information in a particular framework or context to share with each other and for the classification of information based on an individual or group perspective. Overall, the use of these products reinforces the concept of information organizational structures and provides a constantly evolving list of resources.

These tools can be used to teach and access information literacy outcomes. In their presentation, *From Information Literacy to Scholarly Identity: Effective Pedagogical Strategies for Social Bookmarking*, Everhart, Kunnan and Shelton (2007) provide excellent examples of how tagging and social bookmarking can be incorporated across the curriculum. These assignments and activities require students to collaboratively generate course resources through social bookmarking. One use suggested by Everhart et al involves a group project organized around the content of the class. After selecting a bookmarking tool, each team is responsible for finding a set of online resources. These are then evaluated using a library-provided "scorecard" for assessing scholarly value, with the final product a collection of recommended resources. Simultaneous development of a course blog provides a place for an online group discussion, with guidance from the librarian or faculty member. This allows for the group to discuss resources before making them available to the rest of the class. These bookmarks can even be used by students who take the course next time it is offered, with new groups of students amending and extending the collection.

Everhart, Kunnan and Shelton (2007) also describe more advanced uses of social bookmarking. For majors within a discipline, the instructor can construct a scaffolding of tags comparable to the standardized, library-produced taxonomy for the course topics. As part of a research project, students "learn the standard taxonomy, extend it, and collect resources with

their own scholarly annotated descriptions." They subsequently share resources with others in the class as well as scholars in the field (Everhart). In both these examples, students learn by comparing their research process and resources discoveries to those of experienced researchers.

Multimedia

Multimedia tools offer some of the most exciting learning and assessment potential. According to Educause, a majority of U.S. teens create digital media, and this proportion is growing. Students are increasingly comfortable generating original electronic content and sharing it online via sites like Flickr and Youtube. These modes of student expression merge nicely with the pedagogical principles of digital storytelling. Digital storytelling merges technology with the age-old art of storytelling. Digital stories are typically in video format but can also include web pages, digital maps, and other emerging technology mashups. In creating digital stories, students increase their aptitude with multimedia applications, but the "deeper impact comes from their thinking critically artifacts that meaningfully support the story and to assemble them in a way that achieves the desired effect" *(7 things….digital storytelling,* 2007). The process of developing a story requires students cultivate a discerning eye for online resources, increasing information, visual and media literacy. Understanding of copyright also plays an important role in digital storytelling. Digital stories fit well with the e-portfolio model, as students select representative projects and products from their academic careers that demonstrate learning and growth.

Flickr is an image hosting website and community platform, widely used as a photo repository where users may also provide tags (metadata) for organizing and searching for photographs. Flickr merges multimedia elements with the learning potential of tagging. Users can add tags and comments or begin a narrative that explores "the provenance or significance of each image" (*7 things….Flickr,* 2008). Images throughout Flickr can also be geo-tagged, a process that links imagery with a related geographical location, permitting a visual, geographical study of a particular location or place. All of these elements support its ability to help build activities that require research skills and documentation of process. These are easily tied to information literacy learning outcomes.

Youtube is a video-sharing service with instructional possibilities that still remain somewhat untapped in higher education. Like Flickr, it is a powerful tool for the creation of digital stories and projects. YouTube also makes use of tagging tools for organizing and accessing information and ties into several blogging applications. Each of these elements enhances Youtube's ability to serve diverse functions in learning and assessment. The same types of assignments that are possible with blogging and tagging tools could be explored. Reflection on media sources in blog entries or video journals is a particularly interesting potential activity. And, of course, the connection to digital storytelling is strong and should be explored. All of this is closely aligned not only with information literacy outcomes but with media and visual literacy learning outcomes as well.

Timelines and Multimedia wikis: New tools such as dipity.com and xtimeline.com allow for the creation of multimedia or timeline wikis. With these tools, students develop timelines embedded with multimedia that can be edited and updated in a collaborative way just as the traditional text wiki. These are full of interesting possibilities. Timelines could also be used for individual or group course assignments. Students can work together to chart a cultural or social movement, explore the progress of a scientific discovery, or develop a biography for a prominent figure. Students could also create personal, chronological studies of their own academic experiences; self-selecting materials, reflecting on each item at the moment of creation, linking to blogs, tagging libraries and other products and incorporating multimedia elements.

CONCLUSION

Web 2.0 is opening the door to more interactive experiences - in which students can collaborate with peers and communicate openly. These are but a handful of the applications available for innovative assessment. With these types of tools, it is possible to leverage the benefits of social learning and constructivist educational approaches in ways that successfully address information literacy learning goals. Even more innovation in assessment and instruction is possible because the technology itself is both proved and simple to use. Overall, web 2.0 is starting to allow universities greater scope and scale when evaluating students' learning.

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Using Visual Resources in Library Instruction: Lessons Learned from the Museum Trade

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Използване на визуални ресурси при обучението в библиотеките: Уроци от практиката на музеите

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ABSTRACT

As the lines among archives, museums and libraries become less distinct, it makes sense for information literacy specialists to look at what their counterparts at other cultural institutions are doing in terms of user outreach. This paper focuses on "tricks of the trade" used by the museum community and discusses how librarians can incorporate some of these techniques into their information literacy instruction and library programming.

Keywords: *Museums; Libraries; Memory institutions; Social enterprises; Information literacy*

РЕЗЮМЕ

Границите между архиви, музеи и библиотеки са все по-незабележими и за специалистите по информационна грамотност е полезно да наблюдават какво правят техните колеги от другите културни институции, за да спечелят ползвателите. Този доклад е насочен към „тънкостите на занаята", използвани от музейната общност и разглежда как библиотекарите могат да използват някои от тези техники в обучението по информационна грамотност и библиотечно програмиране.

Ключови думи: *музеи; библиотеки; институции на паметта; обществени предприятия; информационна грамотност*

THE BLURRING OF FUNCTION AND FORM

Until quite recently, libraries and museums were thought of as distinct entities, their function determined largely by the format of the artifacts they collected: for the most part, libraries dealt with the collection, organization, and preservation of books and journals while museums were more concerned with visual artifacts (Martin, 2007). Over the past two decades, however, there has been a blurring of the lines of these institutions, largely as a result of

the Digital Revolution. As works like Thomas L. Friedman"s *The World is Flat* have shown, the Web has created the possibility for "brick and mortar" institutions to move into many different kinds of enterprises and in doing so, adopt both the cultures and practices of these institutions. While this sometimes results in rough and tumble competition for a limited number of patrons, it also has created the possibility of genuinely innovative new services. The Library of Congress is a good case in point. Once a brick and mortar institution, it has, through its virtual presence, become a hybrid institution that is part museum, part educational enterprise, and part library (www.loc.gov). Many museums, such as the J. Paul Getty Museum in Los Angeles, CA, have created sophisticated online catalogs that resemble those of academic and public libraries and they promote their collections using techniques borrowed from a commercial enterprise, the art market trade (www.getty.edu/education).

Ironically, the Digital Revolution, although disruptive for non-profit institutions in so many respects, may have caused museums and libraries actually to come closer to their original purpose, which was to enlighten and educate their patrons. As Robert S. Martin notes,

> In practice, there was little practical differentiation between a library and museum until the early modern period, when the development of typographic printing resulted in a dramatic increase in the volume of texts available, which were then distinguished from a collection of objects…There is a robust conceptual framework going back almost a century, however…that would indicate that the distinctions we commonly make between our kinds of collections are irrelevant….If one accepts this stance, then the distinctions we have drawn between libraries, museums, and archives, based on the kinds of things they collect, are really a matter of convention–conventions that have evolved over time. (Martin, 2007, pp. 81-82)

Museums and libraries also have come closer together in their operational practices. Museums, which once only used internal documentation to catalog their artifacts, now organize their visual resources according to metadata standards that are similar to those of the library community, while libraries display their unique resources in virtual exhibits that mimic those of their museum counterparts. And increasingly there is a cross-over in how museum and library professionals are trained. Museum education students elect to take courses like the Collections Information Management Systems, which once was a core course for library science students, while library students study Museum Informatics and Museum Archives (see, for comparison, the course catalogs of the Museum Studies Program at Johns Hopkins at http://advanced.jhu.edu/academic/museum/courses and the Graduate School of Library and Information Science at the University of Illinois at Urbana Champaign at http://www.lis.uiuc.edu/oc/courses/catalog/catalog.html). These students may even be enrolled in a joint educational degree that trains librarians, archivists, and museum professionals together.

Much of the emphasis on a shared purpose is due to the fact that museums and libraries are no longer seen as storage facilities, their strength coming from the depth and breadth of their collections. Instead, they are increasingly referred to as "memory" institutions, whose function is to "collect, maintain, and provide access to the cultural record" (Michalko, 2007, p. 76). While this concept of museums and libraries as cultural enterprises is compelling, there is another, perhaps more useful definition in this discussion of institutional instructional services. In the view of many administrators–and this is certainly the view of the Institute of Museum and Library Services (IMLS), the primary funder of library and museum projects in the United States–museums and libraries are actually "social enterprises". The only real difference between these institutions and business enterprises is that "the ultimate operational objective for the social enterprise–its bottom line–is a positive social outcome" (Institute of Museums and Library Services, n.d.).

This novel point of view has resulted in a deep conceptual shift in how both institutions are viewed by their administrators and funding agencies. If museums and libraries are

"social enterprises", then their value comes not from their collections–although this is important – but from what meaning users make of these collections. It makes no difference whether these materials are housed in a museum or an academic library. The satisfaction (or lack of satisfaction) of a museum visitor or an academic library user depends on how well he is able to profit from what he has learned. As Hooper-Greenhill (2007) notes, "In most cases it will be the user who defines the objective of the visit and who assesses the successful achievement of those objectives (p. 27).

A SHARED EDUCATIONAL MISSION

Of course, there are genuine differences between the two institutions. Museums are primarily recreational institutions, whereas academic libraries support their universities" educational curriculum and research. However, they are also both teaching institutions. This is a role that often is not emphasized enough in their individual institutional mission statements. Most of their professional employees have gone to graduate school, whether they attended museum studies programs, library and information science programs or programs of other academic disciplines, and have been trained in pedagogy. These individuals bring this teaching expertise into their institutional setting. Both libraries and museums provide additional training for their professional staff and both institutions are continually developing educational programming to reach their audience. Of course, the rationale given by each of these institutions is different. Academic libraries attempt to familiarize students with the resources that are useful for their particular area of research and in turn hope that students will make better use of the collections. For museums, good programming often means the difference between an average and exceptional attendance for an exhibit.

A glance at examples of educational programming at both kinds of institutions illustrates how comprehensive these services are. The Guggenheim Museum in New York City (www.guggenheim.org/education/index.shtml) supports a sophisticated educational program that is geared to its visitor base of adults, students and families; the same may be said of the programming at the J. Paul Getty Museum. In turn, almost every academic library has an instructional program. The Association of College and Research Libraries" (ACRL) website provides a definition of information literacy that has been adopted by the academic library community as well as links to many well-established academic information literacy programs (www.ala.org/ala/acrl/acrlstandards/characteristics.cfm).

Much of the grant-funding for libraries and museums in the United States comes from the Institute of Museum and Library Services (IMLS), a federal agency of the United States government. There is a great deal of similarity between the Library Services and Technology Act and the Museums Services Act, which the IMLS administers – the guidelines have deliberately been written to overlap. The 2009 budget request for these two programs is $271,246,000. While this is a large sum of money, even more important is the philosophy that underlies IMLS funding. The IMLS regards both museums and libraries, not so much as cultural institutions, but as "providers of learning" whose mission is to become "centers of learning for life crucial to achieving personal fulfillment, a productive workforce and engaged community" (imls.gov/about/about.shtm).

The IMLS also emphasizes that museums and libraries are responsible for creating "vibrant, energized learning communities." In brief, a learning community is a group of people who are united by a common educational interest: at a university, this might be students who are enrolled in the same course; in a museum this might be individuals who have been drawn to a specific exhibit or a class of students who are on a school trip. Thus, the reasons for the formation of a learning community can be externally or internally motivated. In either case, these learning experiences require mediation on the part of the educator.

This new construct opens up enormous new possibilities for museums and libraries, so that if they really are considered teaching institutions, their resources can be repurposed in new, perhaps previously unexplored ways for the social good.

WHAT CAN LIBRARIES LEARN FROM MUSEUMS?

While museums can certainly draw from the instructional practices put in place by the library community, we would like to focus on some of the "tricks of trade" that museums use to entice visitors and to create exhibits that are visually appealing. This is particularly important because libraries, which for so long have focused on a "print culture" and a "print environment", now find themselves having to deal with many different multimedia formats, including e-books, streaming videos, and audio files. They need to find new ways of drawing users, many of whom are not print-based learners, to these resources. They need to change their instructional practices to be much more fluid and dynamic in their approach to their users–something museums have successfully accomplished.

Museum exhibitions have always been about visual culture and this has given them an edge in a multi-media world. However, they, too, largely because of the impact of the Digital Revolution, have been forced to re-conceptualize how they approach their clientele. As Hooper-Greenhill (2000) notes, the original notion of a museum was to be "encyclopedic…a universal archive" (P. 126). She adds that the "modernist museum, which emerged in the nineteenth century, and reached its apogee by the beginning of the twentieth, understood its visitors as deficient" and "in need of instruction" (p. 125). In this paradigm, knowledge was seen as "authoritative". This is no longer the case. Knowledge, as Wikipedia and Google have shown us, does not have to be attributed to an identifiably "authoritative source" to have value. This democratization of knowledge has challenged the traditional way in which museums present artifacts to the public.

As Talboys (2005) writes, "A museum cannot ever be just a collection of physical objects. Artefacts need care, but they also need interpretation, for experts and the general public alike" (p. 5). He adds, "No educational service provided by a museum will survive for very long if there is no dialogue between the provider and the user" (p. 88). It is precisely how museums interpret constructivist learning principles in their educational programming that should be of the most interest to libraries. The United States Holocaust Memorial Museum in Washington, D.C. is a good case in point. Rather than concentrating on how best to present a collection of artifacts, the museum instead focuses on visitor interaction as its primary goal. As the museum"s designer, Ralph Appelbaum, notes, museums "don't bring objects together, they bring people together" (Soloman, 1999). Grimes (1994) adds,

> Mr. Appelbaum used the storytelling approach to spectacular effect in the Holocaust Memorial Museum in Washington, working historical artifacts, videotaped testimony by Holocaust survivors and written texts into an interior design that takes visitors on a compelling historical journey that, in theory, few should be willing to make. Instead, the exhibition has been so successful that the museum has been mobbed from the moment it opened its doors. Visitors, 60 percent of whom are non-Jewish, spend an average of three hours going through the exhibition.

One of the most important strategies in drawing visitors to this museum was the creation of a coherent storyline. This allowed visitors to place the artifacts they were viewing in a larger context and to construct their own narrative in the process. In this case "the exhibit design process should begin by „thinking about how the visitor might use the knowledge presented in the exhibits rather than thinking about what objects or what ideas to present"" (Thomas and Mintz, 1998, p. 155).

Does this have any application for academic libraries? One of the problems with information literacy programs is that they are often developed without any kind of external context. The focus is on trying to get users to master as many tool-based skills as possible, rather than placing research into a larger narrative. This is in spite of the vast amount of research that shows that students do not learn research skills without a situational need. Imagine the interesting possibilities of designing an information literacy program that allowed students to assemble components of information into their own master narrative. Or one that encouraged students to adopt a constructivist approach to learning, rather than simply being passive listeners.

If one looks at how a museum storyboard is put together, one can see the enormous amount of effort that goes into making a museum exhibit successful. Although these techniques may be similar to those used to design online information literacy tutorials, the methodology used by museum professionals is much more sophisticated. The museum storyboard is in fact referred to as a "narrative document." Dean (1996) describes the process of brainstorming, team meetings, and the setting of goals and objectives that focuses on the central goal as an "interpretative strategy" (p. 103). There is a whole list of visual strategies used to present information to museum visitors that certainly are not of top priority for libraries, including appropriate graphic design, legibility, effective language and so forth (p. 104-118). However, the "interpretive strategy" itself may serve as a viable approach for libraries creating information literacy programs.

Another strategy that museums have successfully adopted is segmenting the visitor population. Rather than a "one size fits all" approach, educational programming is geared to specific markets, such as school children, adults, or teens. An entirely different kind of programming has been created to provide a shared experience among visitors who come to the museum on their own. The Guggenheim Museum, for example, has numerous niche educational programs. A resource center "provides educators with reference materials including information on exhibitions and collections of the Guggenheim museums" and provides staff "to assist teachers with curriculum development." There is the Learning through Art program (LTA) that "sends practicing artists into the classroom to create process-oriented art projects that examine ideas and themes related to the school curriculum." There are adult-only tours of collections and a program called "Works in Process" that combines a lecture, reception and tour for an adult visitor base.

Academic libraries, on the whole, do not differentiate in their approach to their clientele, other than to possibly segment their instruction into programs for undergraduate and graduate students. It is true that academic libraries often do quite creative things to get students to take advantage of their archival or rare materials–for example, inviting faculty to incorporate university blueprints into an architectural class curriculum or encouraging classical studies students to take advantage of a rare Roman coin collection–but there are many things librarians can learn from their museum counterparts in terms of educational programming.

Some museum "tricks of the trade" come directly from the visual or graphic arts tradition. Blais (1995) notes that "text becomes a scriptovisual document in an exhibition" (p. 51). This term, scriptovision, implies that "text is intended not only to be read, but, first of all, to be seen" (p. 52) and that "more attention usually is given to segments of text that gives the reader something to do (look for, apply, carry it)" (p. 109). The notion of "chunking" information to improve short-term memory recall, creating graphically stimulating displays, and designing text that causes the reading process to be "affected by the law of least effort" (p. 88) are all strategies libraries can use, whether designing handouts or online tutorials.

There are many examples illustrating how museums are far more creative than libraries in benefiting from new technology. These include the adoption by museums of social networking tools like Flickr for personal image tagging, PDAs for customized tours, or allowing Web visitors to create a customized selection of museum objects (Dupont, 2007). These tech-

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nologies "can compel a dialogue among visitors and the exhibit content" (Thomas and Mintz, 1998, p. 113). This dialog arises out of the new media user"s own context of accessing information: "talk-back units that are such a popular part of so many exhibits on controversial subjects have an exact analog in electronic bulletin boards and on-line chat rooms…[likewise] official museums share the Web with thousands of personal museums, created by individuals interested in sharing their own versions of connoisseurship and interpretation." As Selma Thomas and Ann Mintz note, "The egalitarian aspect of new media should encourage us to view content as the most important determinant of utility and appeal" (pp. 113-114).

Perhaps the largest distinction between museums and libraries is that museums have invested a great deal of time and energy focusing on how visitors actually spend time in their institutions and what kind of behavior they exhibit in those spaces. Research shows, for example, that visitors tend to turn towards the right when they enter a museum and are more likely to visit an exhibit on the first floor. Museum goers" behavior differs, depending on whether they are first-time or frequent visitors. For example, a new visitor will go through an "intense-looking phase… trying to move systematically through an exhibit." This is followed by a period of cruising, in which visitors are "looking around for objects or displays that will interest them" (Falk and Dierking, 1992, p. 60). Frequent visitors, although they also go through a period of "intense looking", tend to "go directly to the part of the museum that interests them" (p. 62). Museum goers also are subject to external influences, they make sense of what they have seen by "modeling their own social group, other social groups, or museum staff or volunteers" (p. 110). In comparison, academic library administrators have invested relatively less time and energy in tracking the behavior of patrons within in the library space.

We would like to turn now to some examples of museums whose online programming libraries might want to consider emulating. The first is the previously mentioned thematic United States Holocaust Memorial Museum. The museum incorporates many different technologies and services that are geared to the needs of its different visitors. For example, it uses a "geoblog" to "help people trace spatially the effects of genoicide," provides a "tracing service for visitors who wish to track down genealogical information" and features a provocative segment about mass graves in the Ukraine that provides links to articles, podcasts and a link to book-buying at the Museum Shop. What is so interesting about this approach is the genuinely innovative use of technologies and the fact that the museum"s collections are defined and organized according to perceived users" need, rather than according to an old-fashioned and hierarchical classification scheme.

Another excellent example is the Virtual Museum of Canada. This is a Web portal that offers online exhibits, free games, images, and interactive lesson plans, bringing together "art, culture, and heritage from Canadian museums" (www.virtualmuseum.ca/). The site was designed to serve as a travel guide to Canadian cultural heritage and is essentially a repackaging of online services in order to create a new demand for information.

Lastly, there is the small Diego Rivera Museum (www.diegorivera.com/index.php), which contains the work of the twentieth century Mexican artist. The site unites many different commercial and noncommercial services–for example, an art print buying service, a link to obtain image rights, and a flash presentation of Rivera"s murals. There is an interesting use of multi-media, such as a news feed and an intimate video clip of the artist with Frieda Kahlo that runs continuously on the home page.

CONCLUSION

The convergence of museums and libraries as "memory institutions" and "social enterprises" should encourage both institutions to experiment with new techniques and services and take advantage of fresh perspectives on what are essentially similar objectives. In particular, it is suggested that academic libraries should take a hard look at the user-centered approaches and innovative uses of technology that are so prevalent and so successful in museum educational programming. At the very least this experimentation may spark a fresh look at how academic libraries create their own information literacy programs.

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Information Literacy Mashups: Creating One-Stop Course Pages Using Web 2.0 Concepts

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Машъп за информационна грамотност: Създаване на интегрирани курсови материали с концепцията за Web 2.0

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ABSTRACT

A data mashup describes a web application or site that combines data of similar types into an integrated experience. While true Web 2.0 mashups involve a level of technical and web programming skill that many librarians do not possess, librarians can adapt the Web 2.0 concept of a mashup to combine information resources in new ways to benefit students and teach information literacy. A subject librarian working closely with a professor can create a course-specific tool that combines recommended library resources, faculty recommended reading, and pulls in RSS feeds, video, audio, and information content in a sort of mashup that creates meaningful educational content for students in a particular course.

Keywords: Web 2.0; Mashup; Educational content

РЕЗЮМЕ

Машъпът от данни представлява мрежово приложение или сайт, който обединява подобни по вид данни за интегрирано ползване. Действителните машъпи на Web 2.0 налагат определено ниво на умения за техническо и мрежово програмиране, което повечето от библиотекарите не притежават, но те могат да адаптират концепцията на Web 2.0 за обединяване по нови начини на информационни ресурси, които да бъдат от полза на студентите при преподаването на информационна грамотност. Библиотекарят – отраслов специалист, който работи в тясно сътрудничество с професор, може да създаде инструмент за конкретен курс на обучение, в който са съчетани библиотечни ресурси, препоръчани от преподавателите четива и са привлечени в нещо като машъп RSS информационни канали, видео, аудио и информационно съдържание, които създават осмислено образователно съдържание за студентите от определен курс.

Ключови думи: *Web 2.0; машъп; образователно съдържание*

INTRODUCTION

TechWeb TechEncyclopedia (2008) defines a mash-up as "A mixture of content or elements. For example, an application that was built from routines from multiple sources or a Web site that combines content and/or scripts from multiple sources." Clarkin and Holmes (2007) define a data mashup as "a technique for building applications that combines data from multiple sources to create an integrated experience." Web mashups began gaining popularity in late 2005 and early 2006 as web developers began using application programming interfaces (API) to combine elements from multiple data sources into new online services. Web application mashups are becoming even more common as developers expand the ways that they can combine elements from different sources into new online services.

Examples of mashups incorporating Google Maps are now found on many web pages. The Google Transit project (Google Transit, 2008) combines data from various public transportation systems in the world with Google Maps information to provide point-to-point transportation directions with a map of the route. A book-related mashup is LazyLibrary (LazyLibrary, 2008), a web site that takes book data from Amazon.com (2008) and filters out results with more than 200 pages. Users can search for books by topic, retrieve a list of books with fewer than 200 pages, and link to Amazon.com to purchase a book.

Libraries are also using Google Maps mashups on their web sites. The British Library has combined Google Maps with their own digitized archival documents to create an online exhibit called London: A Life in Google Maps (British Library, 2008). This exhibit looks at the growth of the city through historical maps and allows viewers to select points of interest by clicking on a Google Map of London. The web site for the New York Public Library (2008) has an interactive Google Maps application that shows the location of all of the library branches. Clicking on a branch location on the map opens a small window that gives its address and business hours.

While true Web 2.0 mashups involve a level of technical and web programming skill that many librarians do not possess, librarians can adapt the Web 2.0 concept of a mashup to combine information resources in new ways to benefit students. Wikipedia suggests that this kind of document may more properly be called a compound document than a mashup (2008). Librarians at University of North Carolina at Chapel Hill (UNC) have begun making web sites that create an integrated research experience by combining library resources with other types of digital information to create course-specific information sources to enhance information literacy instruction for students.

BACKGROUND

Instruction librarians are often frustrated by students' preference for simple interfaces and desire to retrieve all research information from a familiar search engine like Google or Yahoo (Centre for Information Behaviour and the Evaluation of Research (CIBER), UCL, 2008, p. 12). However, it is only natural for students to want access to the information they need for their classes in the quickest and easiest manner possible.

In contrast with students' desire for simple searches and interfaces, traditional library web sites, resource lists, pathfinders, and subject guides are often large documents that by necessity attempt to collect in one place the breadth and depth of a library's holdings or collections. In spite of the good intentions of the librarians who create these documents, they often do not serve the research needs of students and are not good teaching materials for information literacy concepts. The CIBER report of 2008 noted that, "Students usually approach their research without regard to the library's structure or the way that library segments different resources into different areas of its web site. Library web sites often reflect an organizational

view of the library…they do not do a particularly good job of aggregating content on a particular subject area" (p. 15). Furthermore, students in classes and focus groups at UNC have told us that long lists of resources like traditional subject guides and dense web pages with links to all of a library's varied resources overwhelm them without truly pointing them to the best source for their particular need. A paper by Harley, Dreger, and Knobloch (2001) corroborates these student attitudes and suggests that students operate within a postmodern framework where they are more concerned with outward appearances than deeper meaning or understanding of how something operates. Harley, Dreger, and Knobloch say that for library research, this mindset is displayed when "students are not interested in knowing how a library is organized, or which reference sources to use. They simply want the information required for their course assignments" (p. 25).

Reeb and Gibbons (2004) provide evidence from surveys and usability tests that show that while traditional library subject guides are valuable for the comprehensive lists of resources they provide on a particular subject, students do not use them and do not understand them. Reeb and Gibbons state, "Students lack a mental model that includes subject guides, while librarians have a mental model that supports their value and purpose. What can be done? One alternative is to offer the content of subject guides in new ways. Another alternative is to find techniques to make subject guides, as they exist, more contextual to students" (p. 126). The 2008 CIBER report echoes this suggestion, saying that one possible strategy for encouraging students to make better use of library resources is to provide "better gateways to the [digital scholarly] literature" and for libraries to "make simplicity their core mission" (p. 31).

Comprehensive library web sites and subject guides still have a role to play in providing access to research sources and scholarly materials, but librarians can facilitate student learning by also creating more focused, course-specific web pages. A librarian can work closely with a professor to combine recommended library resources with outside RSS feeds, video, audio, and information content in a sort of mashup or compound document that creates content and meaning for students and makes students more receptive to information literacy concepts. These more focused web sites provide a foundation from which to teach information literacy because students find them more engaging than traditional subject guides and more similar to web sites they use in their daily lives. Students can focus less on remembering how to navigate a complex library web page, and more on using the library resources they need for class assignments.

Information literacy is "the set of skills needed to find, retrieve, analyze, and use information" (Association of College and Research Libraries, 2003). Advanced search engines like Google and more intuitive interfaces in traditional library databases like EBSCO products have simplified the search process in many ways, making the finding and retrieving of information less difficult that in the past. In fact, students have come to expect to find needed information quickly and easily. However, students still have a great deal of difficulty analyzing and using the information they find. Harley, Dreger, and Knobloch (2001) attribute this to students' having grown up in a postmodern, consumerist society that emphasizes convenience and short-term suitability over quality or long-term gain.

The Internet of 2008 provides students with an amazing array of personalized and customized information. Facebook and MySpace allow students to add applications, upload photos, link to music and YouTube videos, invite people to events, and send messages to friends. Amazon provides reading recommendations based on past purchases or books viewed. Course management systems like Blackboard, Sakai, Moodle, and .LRN provide documents and discussion boards that pertain to a single course. Students have come to expect to find information and web sites tailored to their particular needs and desires.

The majority of students at the University of North Carolina at Chapel Hill (UNC) use Blackboard as a mechanism for accessing their course content. In 2005, 23,335 out of 27,276

total students were enrolled in at least one course section that used Blackboard. Students were using the system for an average of 3.3 courses (Eke et al, 2006). According to Eke, by fall 2007, 25,045 students were enrolled in a course that used Blackboard (personal communication, June 25, 2008).

Course page projects have taken off at many universities in the United States. Librarians at private colleges and universities like University of Rochester, Oakland University, Duke University, Brown University, Cornell College and larger public institutions like North Carolina State University, University of North Carolina at Greensboro, University of Wisconsin-Madison, Oregon State University, and University of Minnesota are working to create customized and narrowly focused web pages that provide information on course-specific library resources. Commercial software vendors have also seen the value in course pages. Over 350 academic libraries now subscribe to Springshare's LibGuides product, "a web 2.0 content management and information sharing system designed specifically for Libraries" (Springshare, 2008).

Subject librarians at University of North Carolina at Chapel Hill have taken the course page concept one step further by working closely with professors to create course-specific web sites that combine not only recommended library resources and faculty recommended reading, but also pull in RSS feeds, and incorporate video, audio, and other online information content. These pseudo-mashups result in fewer barriers for students to learn information literacy concepts because the pages are accessible through their familiar Blackboard course accounts.

COURSE PAGES AT UNC

The course page project at UNC began in Fall 2006, when librarians in the Instructional Services Department began working with a small group of professors to create customized, course-specific web sites that integrated web content and online content created by the professor with digital library resources, print library resources, and online tutorials that librarians had created. As a foundation for the course pages and to facilitate ease of creation, the Instructional Design Librarian created a web template that could be formatted for the needs of each individual course page. This initial project involved three librarians, several graduate student assistants from UNC's School of Information and Library Science, and approximately ten courses in a variety of humanities and social science departments.

A librarian scheduled an initial meeting with selected faculty members to discuss the possibility of making course pages for their classes. Professors who were interested in participating provided a copy of their course syllabi and went over the organization and requirements of the classes with the librarian. The librarian, often with input from the professor, then selected appropriate digital library resources that would assist students in the completion of course assignments, and created the course pages.

The pilot project was successful from the perspective of both the librarians who created the course pages, and the professors and students who used them, so in Spring 2007, the course page project was expanded to include all of the subject specialist reference librarians. For most classes the course page includes links to the online catalog, sometimes with subject headings or keywords selected by the librarian as starting points for locating books on topics relevant for that class. Most course pages also contain links to the most relevant databases for journal articles on topics covered in class. There are also links to reference sources like subject-specific encyclopedias and handbooks, links to the library's chat reference service or to the individual librarian's chat account, and links to research tutorials. Some course pages also have sections with resources for specific assignments.

As the course page project has developed, librarians have expanded the types of resources that are included on course pages, turning course pages into mashups or compound

documents that also link students to valuable information that exists outside of the library. Course pages also include link to news broadcasts, art images, music, and digital video content.

For the 2008-2009 academic year, we have begun to include Web 2.0 content from sites like YouTube and the social bookmark management tool del.icio.us, and RSS feeds that bring new relevant content to the page on a daily basis. Librarians are also creating video clips in Camtasia that provide detailed instruction on completing certain tasks. Many of these alternative forms of information are things that students would encounter by searching for their topics using a general search engine rather than a library database.

When librarians have to teach information literacy using the library web site as a starting point, a lot of time is spent simply teaching students to navigate the site. Before the course page project, librarians at UNC typically had just one class period of 50-75 minutes to orient students to the library web site and library services, explain the difference between similarly labeled categories on the site like E-Research Tools, E-Journals, and E-Books, and finally to demonstrate how to use the catalog and library databases. There was rarely time to discuss evaluation of search results or to discuss important concepts like how to select the best sources for the assignment, how to determine bias in research, or how to incorporate results into a research paper.

Course pages have provided a more concise and focused starting point for course-related student research, and librarians now have more time during library instruction sessions to discuss these important topics. Additionally, there is usually time during the class period for students to actually use the selected databases or web sites to look for information for their own projects or assignments. This is important because library science research has shown that students learn better when instruction is directly related to assignments that require student to use library resources (Carter and Daugherty, 1998; Sonntag and Ohr, 1996) and when instruction sessions incorporate active learning techniques that allow students to practice what they have just learned (Deemer, 2008; Liles, 2005).

The course page project at UNC has allowed librarians to explore the use of Web 2.0 applications and ideas in mashups and compound documents to create useful tools for student learning. Course pages respond to the research needs of students in a single course, tying information resources directly into assignments that students must complete. These highly focused research guides also provide opportunities to link to non-traditional information sources like online video and music from sources like YouTube, and online instructional videos created by librarians. Course page mashups offer an excellent starting point for teaching information literacy skills because they are easier to navigate and more obviously applicable to students' work than all-encompassing library web sites or subject guides. Students and professors have told us that course pages are useful tools for them when they are completing research assignments and that they prefer them to the traditional library web site or to long subject guides.

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Learning 2.0 in Information Literacy 0.0 Territory:
The Case of Croatia

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Учене 2.0 в територията на Информационна грамотност 0.0:
Положението в Хърватия

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ABSTRACT

The generation of "learner 2.0" has grown up. It is a generation for whom technology is a way of life, who choose different information paths and who learn in new ways. This is a global phenomenon, and as our surveys has shown, visible among the Croatian student population as well. In the case of Croatia and many other Central European and South Eastern European countries, it is also a generation who has grown up on Information Literacy 0.0 territory, without a clearly devised strategy or policy that would guarantee or direct information literacy implementations. The panelist will describe the contextual elements of the poor state of information literacy in this European region, and point out how the spread of Web 2.0 has further contributed to the fuzziness of information landscapes for students who are functioning without IL instruction, specifically with regard to the fact that IL has been reconceptualized as "information literacy 2.0". In conclusion, comments will be made about the effects of these developments on different stakeholders (librarians, educators, students), and what additional steps need to be taken.

Keywords: Information literacy; Web 2.0; Digital natives; Croatia

РЕЗЮМЕ

Поколението "учащи се 2.0" вече порасна. Това е поколение, за което технологията е начин на живот, което избира различни пътища за информиране и учи по нови начини. Това е световно явление и, както показва нашето изследване, то се наблюдава и сред студентите в Хърватия. В Хърватия, както и в много други страни от Централна и Югоизточна Европа това поколение израстна в територия с Информационна грамотност 0.0, без ясно определена стратегия или политика, която да гарантира или насочва реализирането на информационната грамотност. Докладчикът ще опише контекстуалните менти на незадоволителното състояние на информационната грамотност в този регион на Европа и ще посочи, как разпространението на Web 2.0 допринася още повече за объркването на информационната среда на студентите, които работят без обучение по информационна грамотност, особено в момент когато се говори за „информационната грамотност 2.0". Накрая са включени коментари за въздействието на тези развития

върху различните участници в тези процеси (библиотекари, преподаватели, студенти) и за необходимите допълнителни стъпки.

.Ключови думи: информационна грамотност; Web 2.0; дигитално поколение; Хърватия

THE WEB 2.0 ENVIRONMENT: GLOBAL ASPECTS

Our information universe is becoming ever more heterogeneous, complex and fluid, it is layered and flat in the same time. Its flatness is caused by difficulties in making authority, quality or credibility judgments, while the layers refer to the simultaneous use of information artefacts that belong to different information ages - oral, print and digital. And just when it seemed that the complexity of the information environment has reached the ultimate point of culmination, the Web 2.0 arrived and continued to push the boundaries of diversity, multimodality, mix-up, and confusion.

This new version on the web transformed the very nature of knowledge and information by blurring the boundaries between using and producing, by connecting people and by expanding through user contributions like comments, texts, audio and video content, pictures, tags etc. These services affect information seeking behaviors, communication styles and habits of users, particularly those belonging to the younger generation. This group of users, consisting mostly of students and pupils who have grown up in a technologized world and for whom technology is a way of life, is often referred to as the generation of "digital natives" (Prensky, 2001, p. 1-6). It is believed that this group of users has developed new cognitive thinking patterns, expectations and methods of deriving meaning. They also represent the very audience that both quickly adopts and frequently uses Web 2.0 services, that refuses to consume pre-packaged content passively and is occupying Second life islands while busily tagging or blogging (Ojala, 2008, p. 5). This means that their identification as a specific user group which is characterized by specific information behavior is not just a matter of technology and using new tools and services; they can be differentiated by a particular state of mind that involves attitudes, emotions, preferences, thinking and learning styles. The identification of patterns in information preferences and behavior of students that belong to this generation of "digital natives" could be an important indicator of necessary transformations in educational and information policies of schools and universities.

SURVEYS: INDICATORS OF CONGRUENCY

The above made statements referring to the supposed transition towards a new generation of users of information, which can be labelled as the Internet or Google generation, as the generation of digital natives or by other illustrative terms, are of particular relevance for different stakeholders in the information, educational and workplace sector. Insights in information-related needs and exploration patterns of this new user groups are of crutial importance for the articulation of information policies and respective information systems as well as educational strategies. Evidence in this interest is provided by noumerous studies, the majority of which are concerned with the use of information sources and systems, with an over-riding interest to determine how information sources could be made more useful to teaching staff and students, and how they could be persuaded to make better use of such sources (Wilson, 2000).

Unfortunately, an analysis of the situation in Croatia shows that there is little research into the information skills of young people in and entering higher education. This is probably a

result of a lack of strategic support for information literacy programs, which are, if provided, not systematic and ad hoc in nature. Although these explorations are rare, made in a rather sporadic manner and are not carried through nationwide, some results that were published earlier (Špiranec, Hebrang and Banek, 2008) have shown that the student population in Croatia:

1. shows a strong preference for electronic resources

2. chooses the internet as the first place to start the research processes

3. expects frequent and responsive communications

4. shows a general decline in using library-related, institutionally provided resources

5. shows a high percentage of use of Web 2.0 services

6. uses Web 2.0 services more frequently than their learning management system

7. uses the web simultaneously for fun and education, probably integrating this two activities

A distinctive feature of their information behavior is the confidence they demonstrate while navigating online environments, together with absolute trust in information they encounter online.

These findings show a fascinating congruency with conclusions from other studies in information behavior of the young generation elicited elsewhere (CIBER, 2008; White, 2007; Holliday and Li, 2004, p. 356-366). They show certain global tendencies in user information behavior, like the overall shift from institutionally provided and authoritative to user-generated and participative.

Comparing results of information behavior studies around the world with the insights gained in Croatia it can be seen that the idea of the "digital native" is a global phenomenon. A common way of influencing this behavior, be it that of digital natives or that of older generations, is through information literacy and information literacy programs. But just as the use of technology and particularly the Web 2.0 has influenced the behavior of young people on a global scale, a conceptual shift happened in the approach to information literacy too, which is sometimes referred to as *Information literacy 2.0.*

INFORMATION LITERACY 2.0

Information literacy is, in its substantial features, always characterized and formed by the current information universe. The advent of the information literacy phenomenon is actually partly conditioned by the growing heterogeneity and complexity of information, information resources and information structures. The correlation between information literacy and information landscapes was most evident in the beginnings of information literacy, when a resource-based approach predominated that was quite similar to user education. With the increasing complexity of various information resources the need for stressing evaluation, critical awareness and selection as part of the information literacy concept became more apparent. Despite this different shift in the focus of information literacy, conceptual changes didn't happened because the user was still a customer, a passive recipient of information.

Nevertheless, in the last years a new environment, promoting a completely different, user-centered approach has emerged. The user has changed his role by becoming an information producer, creator and co-creator. He influences the constitution and design of systems and services by contributing contents and organizing it. New information systems based on Web 2.0 application and services learn from user input and the responses of systems are influenced by searches of former users. Entirely new types of information resources, new faces of information seeking behaviors, and new aspects of user expectations have emerged as a result of

this change and development. Web 2.0 focuses largely on information-based phenomena, which naturally has to have an impact on information literacy.

A historical analysis of the information literacy concept also shows that its development is not only influenced by changes in the information environment. The second phenomenon responsible for the information literacy move and vice versa is education. This connectedness is visible in expressions like "information literacy as a catalyst for educational change" (Bruce, 2002) or "information literacy as a prerequisite for lifelong learning" which are commonly used to explain and promote the concept. New educational theories like constructivism have provided the arguments for introducing information literacy into classrooms. According to these new theories, education is not a transfer of information and knowledge but a process of creation, reflection and a critical awareness, therefore the competency of having meaningful interactions with a wealth of information seems more important than ever. The same need appears when e-learning and virtual learning environments are introduced and widely used in education. The correlation between information literacy and learning motivation and success in such environments provides further arguments for putting information literacy on educational agendas.

Such an analysis and arguments lead to the following conclusion: information literacy has appeared, spread and developed as a reflection of shifts and changes in information landscapes and education. What happens with information literacy if both of these areas, information landscapes and education, have fundamentally changed with the advent of Web 2.0, can information literacy then remain the same?

There are plenty of arguments that support the case for a new version of information literacy which is sometimes, usually on blogs or other places of informal communication, called *information literacy 2.0*. There are many reasons to be suspicious about the term and reject it as a hype, since currently there are many phenomenon's witch are labeled with the 2.0 extension for marketing purposes. Anyway, in the case of information literacy arguments are rooted in conceptual foundations of the term. Just like the arrival of Web 1.0 and the implementation of e-learning platforms has had an influence on information literacy, in the same way the arrival of web 2.0 and the use of services and applications like blogs or wikis in formal and informal learning situations has an effect on information literacy, changing its accents and increasing its importance. If learning changes, and if information literacy is in correlation with learning, it is necessary to restructure, update and extend our views on information literacy and probably expand it with the 2.0 extension.

Web 2.0 changes what it means to be an information literate person or community. The first dimension of change is most certainly caused by issues of blurring authority that are initiated by what Tuominen calls the erosion of information context (Tuominen, 2007, p. 8). The erosion goes hand in hand with the progress towards electronic environments. In the era of print culture the information context was provided by textual permanence, unity and identifiable authorship, and therefore it was stable. The Web 1.0 already undermined this stability through the nature of digital information which can be easily modified, copied and duplicated. The Web 2.0 with its collaborative model of knowledge production and mash-up philosophy finally destroyed the stability of information context and created flat and fluid information spaces.

This environment determines new foci of shifted information literacy efforts or a new, information literacy 2.0 philosophy, which deals with recreating and determining information contexts, authority and trustworthiness and the accuracy of encountered information. This also implies an inevitable transition in the content of information literacy programs, from the classics of information retrieval like Boolean operators or the use of broader and narrower terms in controlled vocabularies, towards the creation of conceptual maps about different information

landscapes, the (i)rationalities of new information spaces and the question of dealing with information in a fuzzy information universe.

It is therefore important to stress that the context of the Web 2.0 and the problems that it has generated bestows new and unique functions upon libraries: the only way educational institutions can control or influence student information behavior in this new realms is indirectly, through information literacy programs, but which will have to change in content: not being oriented towards formally institutionally integrated tools like library catalogs, academic databases or Boolean operators, but integrate tagging issues, trust or authenticity privacy issues which are crucial for their usage in educational processes.

Moreover, it should be stressed that within information literacy 2.0 there can't be a *one-size-fits-all* approach any more. In current information-solving or decision-making processes that comprise Web 2.0 services and applications, can we a priori define which information is the best, which resources are appropriate or is there only one strategy to solve a problem? Probably binary right-wrong approaches are not appropriate any more. Therefore, information literacy 2.0 programs should rather offer an insight into the complex layers our current information universe consists of.

Finally, information literacy 2.0 determines itself through instructional methods. This means that for providing information literacy training librarians and teachers have to use Web 2.0 services and applications. Otherwise information literacy experts and their efforts will be in a different place from students, teachers and clients, but, as it has been claimed above, it would be a reduction to determine information literacy 2.0 as the use of Web 2.0 technology in information literacy training.

Nevertheless, if we accept *information literacy 2.0* as a word composition, it is not a clear defined and uniform category with firm demarcation lines from earlier approaches to information literacy. But still, due to unique features of the Web 2.0 and the information environment it has created which in some of its features collides with earlier information structures, information literacy 2.0 can be determined as an updated subset of information literacy.

INFORMATION LITERACY 0.0 TERRITORY IN CROATIA: STATE OF THE ART AND THE CONSEQUENCES

From the above made statements and conclusions it can be inferred that the Net generation and the current Web 2.0 hype are geographically agnostic phenomenon's since they are globally present and widespread, unfortunately this is not the case with information literacy. A diagnosis of the state of information literacy in Croatia, based on earlier research (Lasić-Lazić, Špiranec & Banek, 2006, p. 93-95) shows a poor state of information literacy in this country. According to elicited results, user education in general is still a peripheral rather then a central concern for academic and school libraries in Croatia. Most instruction programs in libraries are conducted on an ad hoc, informal or individual basis, while written and published educational programs and mission statements, which would allow an ongoing evaluation and assessment of information literacy practice, are rarely provided.

But many countries from this region i.e. from Southeast and Central Europe share the same experiences and problems (Pejova et al., 2006). The similarities are caused by the fact that information literacy is a highly contextual phenomenon, determined by different socio-technical, political or historical factors. Therefore existing frameworks and best practice models from e.g. the USA or Australia can't just be copied and transferred since the framework is different. The contextual similarities and issues that are shared by many countries in this particular European region refer to following variables:

- traditions in education,
- traditions in librarianship,
- demands of the labour market,
- the wider political and socio-technical context.

Traditions of education that prevail in this region relate to approaches to teaching/learning processes: in many European countries the lecture-based model predominated in the classroom for many decades. For most of the students in European countries it still isn't common to be active during lectures, to have discussions in the classroom, to interact constantly with many different information resources and learn from them. Within this transition-based approach to learning there was no need for information literacy. Although changes were brought about by launching educational reforms in many of these countries with new focuses on lifelong learning, critical thinking, problem solving etc. and educational institutions struggle to redefine themselves as a result of this reforms, an absence of earlier information literacy practices has caused a slow adoption of the concept in temporary environments. Old perceptions and practices don't die easily.

The second variable that has influenced the poor state of information literacy in this European region are *traditions in librarianship*, i.e. an evident lack of common and widespread practices of user education, rare evidence on teacher-librarian partnerships and low acceptance of the concept of a teacher-librarian. In many European countries librarians are not by default perceived as teaching personnel. Therefore they are usually not assertive enough about their educational responsibilities or have to struggle to get a voice in the classroom. This circumstance has heavily inhibited the idea of information literacy which embodies the idea of teacher-librarian collaboration in its very core.

The wider *socio-technological* context can be analysed from many viewpoints and there are many congruencies between European countries in this area. Most of the countries where lagging behind technological developments for many years. Technology was neither accessible nor affordable which was the basis for the creation of a myth: it was believed that comuputers and computer technology would solve all problems and issues the countries where struggling with, and that technological capacities are sufficient for the transformation of the societies into knowledge societies. Specifically in the educational and workplace arena it was thought that it would be sufficient to connect the classrooms to the internet or to put a comuputer at every workplace and train the users how to use the technology. But important issues like a focus on *using information* for problem solving and creativity in learning processes, at the workplace and for daily life are left out of this technology- focused agenda, although technology by itself is seldom the solution. This misconception is also visible in some strategic documents and policies where the word information literacy is used but referres to computer literacy.

A point of departure for changes is different reforms and frameworks, but in order to be effective and efficient, these certainly should take into account the different traditions and recognize the context in which they should function. The first layer of transformation is already provided through educational reforms that have been launched and that have changed some IL inhibiting traditions. An illustrative example is the Bologna process as the framework for transformations in many European universities that, in some of its aspects, is congruent with information literacy and could be supported by information literacy.

Another important line of development is the recognition of a new generation of users and learners. In order to better communicate with them and involve them in learning processes, classrooms and libraries have to become digital native, too. But this is only possible when policies and strategies show awareness and adapt frameworks which are sensitive to new states of mind expressed by younger generations. Institutional systems as well as information

services need to find ways of connecting to, integrate with and push their content into newly formed and popular learning spaces in order to ensure that they stay competitive and relevant in the eyes of a new and relative homogenous generation of digital native students

These issues are particularly important for countries without a tradition in information literacy. The spread of the Web 2.0 has further contributed to the fuzziness of information landscapes for students who are functioning without IL instruction. Without conceptual knowledge of layers of information worlds they are simultaneous functioning in they eventually will get disoriented, but without being aware about it. They have a right to know that they are bypassing traditional authority information channels when navigating Web 2.0 information repositories, and if they do it, they do it consciously and on purpose, with strong arguments that support their information decisions. They need understandings of all the layers and information world they are functioning in.

CONCLUSION

Given the variations between countries in terms of existing policies, traditions, resourcing levels and cultural backgrounds it is obvious that each country will have its own information literacy map. However, many issues are the same for countries that share the same context since information literacy is a context-sensitive phenomenon. Particular European regions, like South-East European and Central European countries are lagging behind information literacy developments for the same reasons, but have to be aware that particular aspects are global, like the information behavior patterns and preferences of the younger generations, specifically students. To grow up in a world of fluid "2.0" concepts and practices, on information literacy 0.0 territories, could have serious consequences due to the interrelations between information literacy, information environments and learning. Therefore, information literacy is an important issue, today more than ever, but it has to take into account reconceptualizations in the area of information literacy 2.0.

The correlation between success and competencies in accessing, evaluating, synthesizing, communicating and ethically using information is widely acknowledged but should get more attention in a world of abundant, fluid and constantly (re)created information. Therefore, national/regional strategies are needed, for which policy makers and educational authorities should be responsible, while libraries and teachers should, in order to create information literacy programs for the real world, include shifts that were brought about by information literacy 2.0. For countries without traditions in information literacy the problem is even harder. Their learners have the same problems as elsewhere since the Net generation is a global phenomenon, but the absence of information literacy throughout educational systems in these countries will result in information behavior patterns that are simplified, shallow and incongruent with the complexities of the current information universe. For these countries the question of information literacy is not a matter of catching up, it is a matter of giving their citizens the opportunity to decide on a informed basis what, how and with whom they learn and the opportunity to become sustainable information users, creators and co-creators.

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Database Management in Integrated Library System: The Example of ALEPH500

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Управление на бази данни в интегрирана библиотечна система (на примера на Централната библиотека на БАН и ALEPH500)

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ABSTRACT

The article deals with the architecture of the major DBs functioning through the Integrated Library System ALEPH500 at the Central Library of BAS. Then it analyses the functions of the DBs and the interrelations between them. It also shares the rich experience in terms of software support, standards and formats in a process of active exchange with external resources and DB-s. In conclusion, some ideas concerning the management of similar type of DB systems are presented.

Keywords: Databases; ALEPH500; Database management; Check programs

РЕЗЮМЕ

Прави се кратък преглед на архитектурата на базите данни, които функционират чрез интегрираната библиотечна система ALEPH500 в Централната библиотека на Българската академия на науките. Анализира се тяхната функция и взаимната зависимост. Споделя се натрупания опит за начините за поддръжка на софтуерното ниво, стандартизация и вярност на данните в условията на активен обмен на данни с външни за системата източници. Правят се изводи за бъдещото развитие на подобен тип системи за управление на данните.

Ключови думи: система за управление на данните; база данни; интегрирана библиотечна система; стандартизация на библиографските данни; обмен на библиографски данни

INTRODUCTION

The Central Library of the Bulgarian Academy of Sciences (CL of BAS) is the first scientifically oriented Bulgarian library. It was established in 1869 as a book collection of the Bulgarian Literary Society (renamed Bulgarian Academy of Sciences after 1911) and since then it has done its best to provide scientists, university professors, students and citizens with important and up-to-date scientific information. The Library manages a network of 49 branch libraries attached to the respective institutes within BAS and keeps a fund of about 2,000,000 volumes.

On January 1st 2003 CL of BAS adapted and introduced the Integrated Library System ALEPH500 (by ExLibris Ltd). ALEPH500 is a fully integrated software system for library and information resources management. It can be used by different types of institutions, such as libraries, museums, archives and scientific centres. It gives an opportunity to present different kinds of documents (http://www.exlibrisgroup.com/aleph.htm). For more than 20 years now it has been introduced in about 70 countries on 6 continents and has supported an interface in more than 20 languages. One of the most successful installations of the system is in institutions such as the British Library, the Russian State Library, the Harvard University, the Massachusetts Institute of Technology, the National Library of China and the Bavarian State Library (Bayerische Staatsbibliothek, Muenchen).

In CL of BAS the System was adapted by the computer specialists at the Information Resources Management Department with the help of the large documentation proposed by ExLibris Ltd. The installation was done on Red Hat Enterprise Linux 5 Server, Oracle 9.2. The system is organised in two main applications: GUI (graphic user interface) and WEB. The GUI application is divided into 5 modules: Acquisitions / Serials; ALEPHADM; Cataloguing; Circulation; ILL. Three of them are already adapted for the libraries of BAS, namely Acquisitions / Serials; ALEPHADM and Cataloguing. The remaining two modules will be introduced after a critical accumulation of data (more than 50% of the fund).

DATABASES CREATED

Several databases have been created using ALEPH500. The next sections describe the bibliographic, authority, administrative, and holding databases.

Bibliographic Database

Bibliographic database – asc01 holds the bibliographic records. They are catalogued according to MARC21 Concise Format for Bibliographic Data and AACR2 – Anglo-American Cataloguing Rules, 2nd edition. The data are organized by three types of indexes:

• Heading indexes – they are focused on the headings of the bibliographic entries inside both the authority fields and the fields related to an author's names, titles, subject headings etc. One entire field or subfield can be an index of a heading.

• World indexes – lists of words taken from one field of the bibliographic record. For instance: words from the statement of responsibility (fields 1XX), words from the title (fields 240, 241, 242, 243, 245 …), from the subject heading (fields 6XX), words from all the fields.

• Direct indexes – they give the opportunity to search after specific registrations. For example: number of bibliographic record; ISBN, ISSN; signature; barcode; system number.

The search within the bibliographic database is simplified by maintaining a series of logical subsets organized according to various features, for example:

- According to the type of the bibliographic document, the physical database is subdivided in: books, serials, maps, computer files, scores, mixed materials, sound recordings, and visual materials.

- According to their content several collections are defined: new books; Russian books up to 1917; old-printed books; copies of Old Bulgarian (Old Church Slavonic) manuscripts; Bulgarian translations of Hungarian authors, digital copies of old-printed books, digital copies of periodicals dating from 1844-1944, etc.

- According to the functions of certain records: deleted, records for internal use etc.

Authority Database

The authority database – asc10 keeps the files which control or refer to the fields of an author's names (incl. pseudonyms), titles and subject headings in the bibliographical database.

The cataloguing is done in conformity with MARC21 Concise Format for Authority Data and AACR2 – Anglo-American Cataloguing Rules, 2nd edition. Not only in the bibliographic database, but here as well, three indexes are defined. The searches are done in accordance with the specifics of the record's format and the database.

Part of the logical subsets here is related to different characteristics if the statement of responsibility, e.g.:

- Academicians, corresponding members

- Bulgarian Composers

- Specialists in Slavic Studies etc.

Another part depends on whether the authority records are suitable for use for the statement of responsibility, the title or subject heading, namely:

- Authority records for Main entry

- Authority records for Subject headings

- Authority records for Titles

Used is the field with a fixed length of 008, and its positions 14, 15 and 16 are filled in respectively. So one and the same record could be used for the statement of responsibility and the subject heading at the same time, or for the statement of responsibility or the subject heading only, etc.

At the initial installation three Authority databases were defined: 1) related to the statement of responsibility; 2) related to titles; and 3) related to subject headings. It turned out that this decision did not meet the requirements for speed, standardization and effectiveness while searching. For instance, if one and the same name is suitable both for statement of responsibility (the main entry) and for subject heading, it is necessary to search in two different databases; the authority record is different in the two separate databases (with different system number and, sometimes, with different references). On the other hand, when searching for the same person both as an author and as somebody to whom a library document is dedicated, it would be necessary to search two times. Therefore we merged the three databases into one.

Administrative Database

The Administrative database – asc50 keeps information related to several processes: supplying (ordering, receiving, invoicing); registration of library documents (barcoding, call numbering, inventorying etc.); inventory maintaining by means of Vendors; exchange rates (for the foreign currencies used by the library); various budgets; information related to recla-

mations etc. Cataloguing is done in formats which are interior to the system and are adapted in accordance with the specific needs of the BAS libraries.

Holding Database

The Holding database – asc50 keeps all the call numbers of library documents which are subordinated to different rules and policies in CL and the 49 branch libraries attached to respective departments of BAS. Cataloguing is congruent with MARC21 Concise Format for Holding Data and AACR2 – Anglo-American Cataloguing Rules, 2nd edition. There is an expand program functioning between the databases. It ensures mutual enrichment of inter-database information. For example it is possible to view information related to supplying, the number of copies, the call numbers, inventory numbers etc. as well as the bibliographic record of the document and other data from the Holding records.
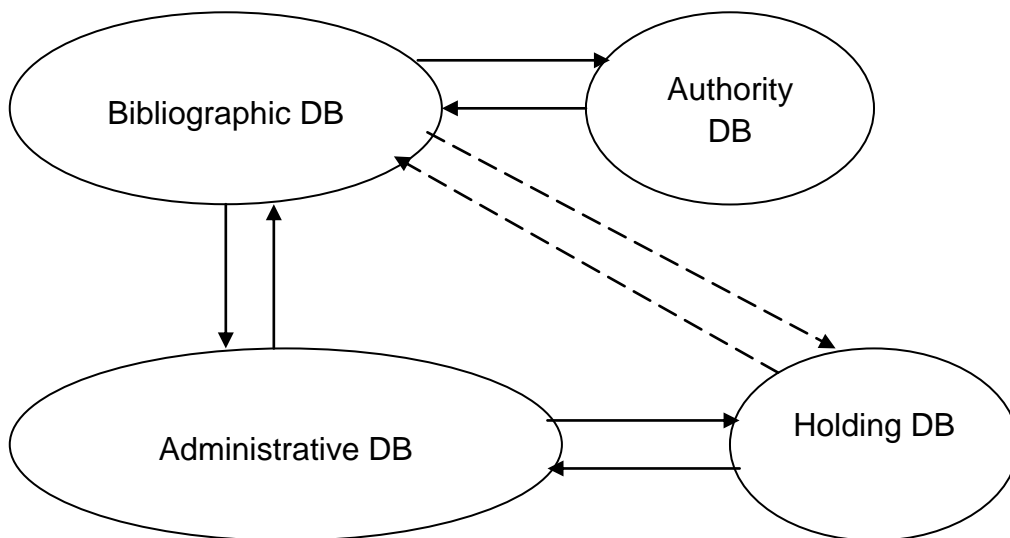
Graph 1: Interrelations between the databases

The graph above visually represents the interrelations between the various databases. The unbroken lines mark the direct connections between the bases, while the dotted lines mark the indirect ones.

MAINTAINING ACCURACY: CHECK PROGRAMS

In conformity with the policy for truthfulness and accuracy when inserting data into database, the Bibliographic, Authority and Holding databases are subordinated to similar rules:

1. Initially, the Staff privileges with proxy function are defined, and the access rights to the various databases are fully described;

2. Every user has their own profile defining their access rights. The user is added to an already defined proxy or is given their own individual rights. A three-stage hierarchy has been introduced for creating and editing the records.

- Access or denial to some particular fields. For instance, the cataloguers responsible for the bibliographic record have no access to 6XX – Subject Access Fields

which is accessible for the ones working at the Classification and Indexing Department and vice versa, the latter do not have access to the fields of the bibliographic record;

- OWN groups definition – certain groups have or do not have access to the records of other groups. For example the cataloguers describing books and other non-periodicals are not enabled to edit the bibliographic records of the cataloguers describing periodicals;

- Granting cataloguers with certain levels (from 01 to 99). Any cataloguer from lower level cannot correct the records of a higher level cataloguer.

3. Check programs are used to actively assist the correct insertion of data into the bibliographic record, e.g.: the correct insertion of codes in the fixed length field; the logical structure and connection between the fields; the length of a field etc.

The Administrative database is the main and leading one, so it has its own structure and management policy. There is no access level as it is in the other three databases. Defined are access rights related to certain function. The check programs here are compulsory. If the data are incorrect, the system does not accept them and a trigger appears to inform where the mistake is and where the correction is necessary. The record can be saved only after the correct data is inserted. The system offers also a series of reports, flexible methods for renewing information, and series of printing services.

While gaining experience in our library we have determined that together with the check and fix programs incorporated by the developer company it is necessary to incorporate other, additional check and fix programs designed according to the specifics of our adaptation and statistical data required by the Bulgarian Institute of Standardization, the National Statistical Institute, the Accountancy act etc. This results in a high degree of accuracy and actuality of the existing databases.

For this purpose we have developed many check programs which are suitable for the specifics of our installation. We have used Oracle 9.2 and, for the user-friendly display, PowerBuilder 10.0 Build 4500 of Sybase to develop 5 modules with the total of 56 check programs:

1. Programs for ongoing check of data related to newly received books and other non-periodical editions – 12 check programs classified in modules;

2. Programs for ongoing check of data related to periodicals – 12 check programs classified in modules;

3. Programs for ongoing check of data related to books and other non-periodical editions included in the Retroconversion Project – 9 check programs classified in modules;

4. Programs for ongoing check of data related to periodicals included in the Retroconversion Project –11 check programs classified in modules;

5. Programs for ongoing check of data related to the administrator – 12 check programs classified in modules.

Checked are data in the order, invoices, format of the inventory numbers, call numbers, barcodes, prices, length and correctness of ISBN and ISSN, correspondence between the codes of languages and countries in fields 088, 041 and 044 etc.

The programs for ongoing checking of data are extremely effective when clarity, standardization and unification of data are concerned. They are of great importance for the correctness of data in preparing any type of statistical reports from the database. The frequency in which they are used depends on the correctness level of inserted data. In the initial adapting of the library system and the assimilation of formats was necessary to check the data more often,

sometimes even every day. At a later stage, after getting used to the product, it was necessary for the data to be checked every month or rarer.

Using the same means for visualization, namely PowerBuilder 10.0 Build 4500 of Sybase, were prepared programs external for the system – for statistical reports, checks, preparations of financial documents etc.:

1. For the needs of the International Exchange Division – 7 programs giving up-to-date data concerning the activity of the exchange partners, the interest toward certain editions, collectiveness of titles etc.;

2. For completing the tables of the periodical reports (every month, every three months, every year etc), which give data concerning the fund growth, its characteristics in terms of the ways in which the respective items have been received, of libraries, prices, language and content;

3. For the Branch Libraries of BAS Inventory Book;

4. For the Book reflecting the movement of library funds.

Depending on the users' wishes, all the reports from the described programs can be viewed and actively modified directly in the program and also can be transformed into Microsoft Excel files where their additional processing can continue in accordance with the target purposes.

The programs for ongoing check of data play a great part also in ensuring that the bibliographic data are correct. It is not by chance that CL of BAS is the first Bulgarian library to participate in OCLC (Online Computer Library Center). Our bibliographic records have been accepted after a profound bibliographic and informational analysis of the data carried out by the best in the world specialists in the field of library and informational technologies. And this is an extremely high estimation of the enormous work which our team in the CL of BAS did for the last few years. The programs for ongoing check of data play an important role also in raising the quality of the services for readers and in providing the end user with quick and correct information.

CONCLUSION

By switching to the new 18th version of the Integrated Library System ALEPH500, which is forthcoming, CL of BAS will further develop and adapt the system according to its needs and will do its best to expand its services while building the foundation of its digital library, to simplify the searches in the databases, to improve the correctness if the metadata etc. In the new conditions of the Internet environment where also search engines (such as Google and Yahoo) exist, it seems that CL of BAS and the 49 branch libraries of BAS will keep their unique place as repositories of the scientific thought in the Bulgarian information space by renewing the carriers (the media) and the means to find up-to date, correct and adequate information.

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Metadata or What a Digital Library Cannot Exist Without

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Метаданни или без какво не може една дигитална библиотека

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ABSTRACT

What is metadata? The paper presents two main standards for metadata: Dublin Core Metadata Initiative - Element Set (DCMI) and Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). Other standards for metadata are also discussed. The types of metadata are discussed: descriptive, administrative, structural and metadata for managing of access. What is the role of metadata in a digital library: organizing of digital documents; identification of single digital document; possibility for repeated using of digital documents; compatibility of documents from different networks, systems and organizations; and archiving and preserving of digital documents?

Keywords: Metadata; Digital library; Standards

РЕЗЮМЕ

Какво са метаданните? Представяне на основните стандарти за метаданни - Dublin Core Metadata Initiative - Element Set (DCMI) и Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). Други стандарти за метаданни. Видове метаданни: описателни, административни, структурни и метаданни за управление на достъпа. Каква е ролята на метаданните в една дигитална библиотека за: организиране на дигиталните документи; идентификация на отделните дигитални документи; възможност за повторно използване на дигиталните документи и съвместимост на документите от различни мрежи, системи и организации; архивиране и съхраняване на дигиталните документи?

Ключови думи: метаданни; Дъблинско ядро; дигитални библиотеки; Dublin Core; OAI-PMH

КАКВО СА МЕТАДАННИТЕ

Метаданните са „данни за данните" и ако си припомним друг подобен термин - „информация за информацията", като определение за библиографската информация, веднага може да направим паралел между тях. На практика става въпрос все за каталогизация на документи, но в единия случай това са документи, издадени на някакъв фи-

зически носител (книги, периодични издания, CD, DVD и др. под.), а в другия – документи (обекти, ресурси), публикувани в дигитална среда. Редица автори смятат, че електронните ресурси могат да бъдат описани със съществуващите стандарти и правила за библиографско описание[1]. Защо тогава са нужни метаданните?

Метаданните са структурирана информация, която описва даден информационен ресурс и го идентифицира в рамките на определен масив (напр. дигитална библиотека). В същото време те улесняват неговото намиране, използване и управление и определят начините за достъп до него. Повечето автори определят 3 основни типа метаданни: описателни, структурни и административни[2]. Описателните метаданни дават библиографската информация и други сведения за съдържанието на електронния документ. Структурните включват сведения за форма́та, структурата, обема или други формални свойства на документа. Административните определят авторските права, управлението на достъпа, данните за ползвателите и за начините на плащане. Особен тип метаданни се явява идентификаторът, който има за задача еднозначно да локализира електронния документ в определено дигитално пространство. Важно е да се отбележи, че метаданните дават информация за документите, която е разбираема за компютрите.

Системата от метаданни се явява централен логически компонент на всяка дигитална библиотека. Също както библиотечният каталог организира всички документи, съхранявани в различните фондове на една традиционна библиотека, различните типове метаданни организират съвкупността от електронните ресурси в една дигитална библиотека. Благодарение на системата от метаданни се изграждат основните технологични процеси в нея, а именно:

- въвеждане, обработка и организация на архивирането и съхранението на дигиталните обекти или съвкупност от тях;

- търсене и идентифициране на отделни дигитални обекти или съвкупност от тях;

- управление на правата за достъп до дигиталните документи, включително защита на авторските права и заплащане правото на достъп, когато това е необходимо.

Метаданните осигуряват и възможност за повторно използване на дигиталните документи при обединяване на няколко дигитални библиотеки, както и обмен на документите от различни мрежи, системи и организации.

СТАНДАРТИ ЗА МЕТАДАННИ

Стандартът „Множество от елементи за метаданни Дъблинско ядро" (Dublin Core Metadata Initiative Element Set), или както е по-известен - Дъблинско ядро, е създаден от Инициативата за метаданни Дъблинско ядро (Dublin Core Metadata Initiative- DCMI) през 1995 г. на семинар в Дъблин, Охайо. Първоначалната идея за простота на описанието, за разлика от по-сложните и подробни стандарти за библиографско описание, обуславя създаването на минимален набор от елементи. Дъблинското ядро се състои от петнадесет свойства (елементи), използвани за описание на всякакъв тип електронни ресурси, като всички те са незадължителни и могат да се повтарят.

Според указанията на документа RFC2413 - Dublin Core Metadata for Resource Discovery[3], петнадесетте основни елемента на Дъблинското ядро може условно да се разделят на три групи:

1. Елементи, които се отнасят към съдържанието на ресурса – заглавие, предмет, описание, тип, източник, връзка и обхват.

2. Елементи, които се разглеждат от позицията на интелектуалната собственост – създател, издател, други участници в създаването на ресурса и права.

3. Елементи, които се отнасят към идентификацията на определен екземпляр на ресурса – дата, формат, идентификатор и език.

Скоро след създаването си, Дъблинското ядро получава широко разпространение в много страни и се налага като стандарт при описанието на електронни ресурси. В момента се използва Версия 1.1 на Множество от елементи за метаданни Дъблинско ядро, която е в сила от 14 януари 2008 г. и досега има неофициални преводи на 18 езика.[4] На български език има официален превод под формата на БДС ISO 15836:2008. Информация и документация. Множество от елементи за метаданни Dublin Core, публикуван на 28 март 2008 г., който е превод на международния стандарт ISO 15836:2003. Information and documentation - The Dublin Core metadata element set.

Междувременно практиката показва, че петнадесетте елемента не са достатъчни за да се представят детайлно и идентифицират отделните документи в една дигитална библиотека. Това налага работната група от Инициативата за метаданни Дъблинско ядро (DCMI) да разработи допълнителни 40 квалификатора към базовите елементи. В руския стандарт ГОСТ 7.70-2003. Система стандартов по информации, библиотечному и издательскому делу. Описание баз данных и машиночитаемых информационных массивов. Состав и обозначение характеристик, който също е разработен на базата на международния стандарт ISO 15836:2003, съществуват 29 елемента, от които 10 са задължителни за всички категории ресурси.[5]

По-надолу ще представя основните 15 елемента на Дъблинското ядро, както и някои допълнителни квалификатори, които са се наложили в практиката като особено важни и необходими.

1. Title - Заглавие - наименование, дадено на ресурса от неговия създател или издател и под което той е известен.[6]

Alternative Title – Алтернативно заглавие – друга форма на наименованието на ресурса.

2. Creator – Създател – лице или организация, отговорни за първоначалното създаване на съдържанието на ресурса. Това може да бъде автор в случай на текстови документи или изпълнител, фотограф или илюстратор в случай на мултимедийни документи.

3. Subject – Предмет – тема на съдържанието на ресурса. При подбора на предмети се препоръчва да се използват контролирани речници и официални класификационни схеми. За допълнително разкриване на съдържанието на ресурса в руския ГОСТ 7.70-2003 са предвидени още два елемента: **код на тематична рубрика**, съгласно техния Държавния рубрикатор за научно-техническа информация[7] и **индекс по УДК**.

4. Description – Описание – текстово изложение на съдържанието на ресурса във вид на реферат или анотация за текстовите документи и описание на съдържанието в случай на мултимедийни документи.

5. Publisher – Издател – лице или организация, отговорни за създаването на ресурса в неговата настояща форма, например издателство, университет или фирма.

Консултант – лице, което може да даде допълнителна информация за ресурса. Този елемент е задължителен за ресурси, които не са в мрежа и позволява да се изясни начинът за достъп до тях[8].

6. Contributor – Участник в създаването на ресурса[9]- лице или организация, които не са създатели, но имат значителен интелектуален принос при създаването на ресурса, например редактор, преводач, илюстратор. Ако се направи паралел със стандартите за библиографско описание, този елемент съответства напълно на елемента „Лица с вторична авторска отговорност".

7. Date – Дата – дата на събитие от жизнения цикъл на ресурса във формат е ГГГГ-ММ-ДД. Най-често това е датата на създаването на ресурса или датата, от която е станал достъпен.

Във връзка с особената важност на елемента „дата“ и възможните разновидности, DCMI предлага още няколко допълнителни квалификатора:

Date Submitted – Дата на предоставяне - посочва се датата на предоставяне на ресурса, напр. дата, на която е предоставена дисертация от факултета или дата на предоставяне на статия в списание.

Date Accepted – Дата на приемане – посочва се датата на приемане на ресурса, напр. дата, на която е приета дисертация от факултета или дата на приемане на статия в списание.

Date Copyrighted – Дата на Copyright – дата, от която влиза в сила авторското право върху ресурса.

Date Modified – Дата на промяна – дата на промяна на съдържанието на ресурса

Date Valid – Дата на валидност – дата (най-често се посочват началната и крайната дата), която определя периода на действие на ресурса

Три допълнителни елемента към елемента „дата“, но с различно предназначение, има и в руския ГОСТ 7.70-2003:

Дата на обновяване – посочва се датата на последното обновяване на съдържанието на ресурса.

Дата на обновяване на метаописанието – посочва се датата на последното обновяване на метаданните на ресурса в каталога. Елементът е задължителен, ако данните в каталога се поправят в съответствие със съдържанието на ресурса.

Периодичност на обновяването – показва на какъв интервал от време се обновява ресурсът, като се изписва едно от следните неща: година, тримесечие, месец, седмица, ден, постоянно, епизодично, не се обновява.

8. Type – Тип – характер или жанр на ресурса, например роман, статия, дисертация, речник, личен сайт.

9. Format – Формат – физическо или цифрово представяне на ресурса. Обикновено се посочва какъв тип програмно осигуряване и хардуер са необходими, за да се работи с ресурса.

Extent – Размер – големина или продължителност на съществуване на ресурса.

В допълнение към този елемент, руският ГОСТ 7.70-2003 предлага и **Обем** - характеристика на обема на ресурса, който се дава в мегабайти, и **Количество на документите** – отбелязва се броят на еднотипните документи или записи в дадена база данни.

10. Identifier - Идентификатор – набор от букви и/или цифри, които служат за недвусмислена идентификация на ресурса, например Унифициран локатор на ресурса (URL), Унифициран идентификатор на ресурса (URI), Цифров идентификатор на обекта (DOI), Международен стандартен номер на книгата (ISBN). Идентификаторът дава възможност за директно препращане към ресурса.

11. Source – Източник – препратка към ресурс, от който произхожда настоящият ресурс.

12. Language – Език – език, на който е написано интелектуалното съдържание на ресурса. Препоръчва се използването на дву- или трибуквени кодове на езиците, съответно според стандартите ISO 639-1:2002 и ISO 639-2:1998[10].

13. Relation – Връзка – препратка към други сродни ресурси.

Is Format Of – Е формат от – сроден ресурс, който на практика е същият, както описвания ресурс, но в друг формат.

Is Part Of – Е част от – сроден ресурс, в който описваният ресурс е физически или логически включен.

Is Version Of – Е версия от – сроден ресурс, от който описваният ресурс е версия, друго издание или преработка. Промените във версията предполагат по-скоро съществени промени в съдържанието, отколкото разлики във форма́та.

14. Coverage - Обхват – характеристика на пространственото местоположение (наименование на мястото или географските координати) или на периода от време на съществуване на ресурса. Препоръчва се използването на контролирани речници, напр. Тезаурус на географските имена (Thesaurus of Geographic Names [TGN]).

15. Rights – Права – определят се авторските и други сродни права и произтичащите от тях ограничения на достъпа до ресурса.

Access Rights – Права за достъп – дава информация за това, кой има право на достъп до ресурса или обозначава ограниченията, произтичащи от различни фактори и политики за достъп.

Rights Holder – Носител на правата – лице или организация, които притежават или управляват правата върху ресурса.

OAI-PMH ПРОТОКОЛ ЗА СЪБИРАНЕ НА ДАННИ

Лавинообразното увеличаване на броя на дигиталните библиотеки, архиви и репозиториуми, в които се публикува текстова, аудио и визуална информация, поставя проблема за съхраняване, търсене и обмен на описанията на ресурсите. През 2001 г. организацията „Инициатива за отворени архиви" разработва Протокол за събиране на данни – The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). В момента се използва версия 2.0 на протокола OAI-PMH, която е в сила от 14 юни 2002 г.[11]

Основните понятия, с които оперира протоколът OAI-PMH, са:

Harvester – Събирач – клиентско приложение, което възпроизвежда OAI-PMH заявки. Той работи чрез даден доставчик на услуги като средство за събиране на метаданни от различни дигитални хранилища.

Repository – Хранилище – сървър с достъп до мрежата, който може да обработва шестте основни заявки на OAI-PMH по определен начин. Всяко хранилище се управлява от доставчик на данни, който предоставя метаданни за събиране.

Item – Екземпляр – екземплярът е съставна част от дадено хранилище, от което метаданните за определен ресурс може да се разпространяват. Той е своеобразен контейнер, в който се съхраняват или динамично се генерират метаданни за определен документ в различни формати, като всеки от тях може да бъде събран като отделен запис чрез OAI-PMH.

Unique Identifier – Уникален идентификатор – еднозначно определя един запис в дадено дигитално хранилище. Той се използва за извличане на метаданни от за-

писа в OAI-PMH заявките. Форматът на уникалния идентификатор трябва да съответства на синтаксиса на Унифициран идентификатор на ресурса (URI).

Record – Запис – съвкупност от метаданни, които описват даден електронен ресурс и са представени в определен формат, най-често в XML. Всеки запис се състои от 3 части:

Header – Заглавна част – съдържа уникалния идентификатор на записа, дата на създаване, промяна или изтриване и принадлежност към дадена колекция.

Metadata – Метаданни – метаданните за даден екземпляр, представени в определен формат.

About – Забележки – незадължителна част, в която се дава различна допълнителна информация.

Set – Колекция – незадължителна конструкция, която позволява записите да се групират според някакъв общ признак, напр. тема, дисциплина, институция, с цел подборно събиране на данните. Колекциите могат да имат структура на едно ниво или йерархическа структура.

Selective Harvesting – Подборно събиране – позволява да се ограничи събирането на заявки до определени части от метаданните, които са достъпни от дадено дигитално хранилище.

Протоколът OAI-PMH позволява обмен на метаданните на ресурси от различни дигитални библиотеки или архиви, като структурата му е максимално опростена и включва шест основни операции:

1. **GetRecord** – извличане на метаданни на запис от хранилището по неговия идентификатор

2. **Identify** – извличане на информация за хранилището

3. **ListIdentifiers** – извличане на списък с идентификатори на записи, обработени в определен интервал от време или принадлежащи към определена колекция

4. **ListMetadataFormats** – извличане на списък с достъпните формати за метаданни, които се подържат от даденото хранилище

5. **ListRecords** – извличане на списък със записи или отделен запис, обработени в определен интервал от време или принадлежащи към определена колекция

6. **ListSets** – извличане на списък със структурата на колекциите от дадено хранилище

Всяко запитване на протокола OAI-PMH се изпраща по протокола HTTP, а резултатът се връща като XML.

Основните функции на протокола са свързани с предаването на информация за електронните ресурси и архива (хранилището), в който те се съдържат.[12] Описаните ресурси могат да бъдат дигитални документи от всякакъв тип. Протоколът OAI-PMH изисква задължително в описанието на ресурса да се включат наборът от метаданни Дъблинско ядро, а препоръчва и по-широк набор от метаданни (напр. библиографско описание във формáта MARC). Възможно е записът на описвания ресурс да се представи и в XML формат. Важно е да се знае, че идентификаторът на записа не се явява и идентификатор на документа. За да се стигне до пълния текст на документа, протоколът OAI-PMH препоръчва в описанието да се използват идентификатори като Унифициран локатор на ресурса (URL), Унифициран идентификатор на ресурса (URI), Цифров идентификатор на обекта (DOI).

Протоколът OAI-PMH определя съществуването на два типа участници в събирането на данни: доставчици на данни и доставчици на услуги. Доставчиците на данни управляват системи, които поддържат протокола като среда за разкриване на метаданни. Доставчиците на услуги, от своя страна, използват събирането на метаданни чрез OAI-PMH като база за изграждане на услуги с добавена стойност. Основните характеристики на протокола OAI-PMH позволяват достатъчно лесно неговият интерфейс да се приложи към вече съществуващи дигитални библиотеки, архиви или репозиториуми. Много от разработените програмни приложения за организация на дигитални колекции (GreenStone, DSpace, EPrints и др.) са реализирани с помощта му.

Широкото използване на протокола става причина да се появи още един вид ползватели – агрегатори на метаописания на ресурси, които се нареждат сред доставчиците на данни и доставчиците на услуги. Агрегаторът използва OAI-PMH за събиране на метаданни от няколко източника, както и доставчиците на услуги. В допълнение той ги съхранява и обработва по различни начини, включително ги синхронизира чрез анализ на пресичанията на събраните записи или ги прехвърля от един в друг формат – например от MARC в Дъблинско ядро. Накрая агрегаторът прави тези метаданни достъпни посредством протокола OAI-PMH, като по този начин се превръща в доставчик на данни.

ЗАКЛЮЧЕНИЕ

Понастоящем три български библиотеки участват в европейски дигитални мрежи. НБКМ участва в проекта **TELplus**[13] (2007-2009) с малка част от своята дигитална колекция, която вече е достъпна в Европейската библиотека (The European Library). Централната библиотека на БАН е партньор в проекта **MICHAEL**[14], който предоставя международна информационна услуга, позволяваща на потребителите да търсят, преглеждат и проучват описанията на дигитални източници, съхранявани в музеи, библиотеки и архиви от цяла Европа. Регионална библиотека – Варна, се включи в проекта **EuropeanaLocal**[15], който ще направи достъпно дигиталното съдържание, съхранявано от регионални и местни институции чрез мрежата EUROPEANA на Европейската дигитална библиотека (European Digital Library). С цел да се синхронизират стандартите и форматите между отделните организации, и в трите проекта се предвижда да се предоставят на участниците средства, ресурси и указания за използване на OAI-PMH стандарта за събиране на данни в техните дигитални колекции.

Безспорно е, че има какво да покажем на другите държави като уникални и ценни документи. Със сигурност има и какво да почерпим от техните дигитални колекции. Вече доста е направено – по неофициални данни над 50 български библиотеки дигитализират в момента или вече са дигитализирали част от своите фондове. Остава да положим още малко усилия, за да приложим международните стандарти, което ще позволи на българските дигитални библиотеки да заемат полагащото им се място в големите европейски мрежи.

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6. Подреждането на петнадесетте основни елемента е в реда, даден в БДС ISO 15836:2008.

7. Държавният рубрикатор за научно-техническа информация е определен от междудържавните стандарти ГОСТ 7.49 и ГОСТ 7.77 и важи за всички държави в ОНД.

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9. В БДС ISO 15836:2008 този елемент е преведен като Приносител.

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Improving Use of Resources through an Enhanced Information Management Library System

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Увеличаване на използването на ресурси чрез усъвършенстване на системата за информационен мениджмънт

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ABSTRACT

The explosion of information and "ease" of sharing information electronically has sparked an increase in information that libraries need to share internally, with partners, and customers in order to effectively provide the services desired. This is increasingly important as the more successful organizations understand the need to support collaborative environments whether within library staff teams, with other groups that help provide service, and with customers. Web 2.0 tools can help with this issue but these tools are seriously under-utilized and libraries must look to improve their use of these tools. However, even full utilization of the individual tools may not be feasible due to the amount of staff development needed at a pace to keep up with many customers. A next generation tool is needed that integrates a variety of elements that current tools support. This tool can help people focus their time on sharing of information and collaboration versus spending time on the tools themselves.

Keywords: Information overload; Web 2.0; Information management systems

РЕЗЮМЕ

Информационният взрив и „удобството" да се споделя информация по електронен път предизвикаха нарастване на информацията, която библиотеките трябва да споделят вътрешно, с партньорите си и с потребителите, за да предоставят ефективно желаното обслужване. Това е все по-важно в момента, когато успешно развиващите се организации разбират необходимостта от подкрепа за климата на сътрудничество в рамките на библиотечните екипи, с други групи, които подпомагат обслужването или с потребителите. Инструментите на Web 2.0 могат да бъдат от помощ в това отношение, но библиотеките не ги използват достатъчно и трябва да им обърнат по-сериозно внимание. Но дори когато отделни инструменти се приложат пълноценно, те пак може да не бъдат полезни поради необходимостта от обучение на персонала, за да има той същото ниво на умения като повечето потребители. Необходим е инструмент от ново поколение, който да интегрира разнообразните елементи, поддържани от сегашните инструменти. Този инструмент може да помогне на хората да използват времето си за

споделяне на информация и сътрудничество, вместо да го губят за изучаване на самите инструменти.

THE INFORMATION MANAGEMENT CHALLENGE

The explosion of information and "ease" of sharing information electronically has sparked an increase in information that libraries need to share internally, with partners, and customers in order to effectively provide the services desired. This is increasingly important as the more successful organizations understand the need to support collaborative environments whether within library staff teams, with other groups that help provide service, and with customers. Web 2.0 tools can help with this issue but these tools are seriously under-utilized and libraries must look to improve their use of these tools. However, even full utilization of the individual tools may not be feasible due to the amount of staff development needed at a pace to keep up with many customers. A next generation tool is needed that integrates a variety of elements that current tools support. This tool can help people focus their time on sharing of information and collaboration versus spending time on the tools themselves.

UNIVERSITY OF KANSAS LIBRARIES GROUP ENVIRONMENT

The University of Kansas Libraries Resource Sharing Unit might be a typical example of many academic libraries interlibrary loan operations. There are many groups of people that play vital roles in providing direct service to customers or to supporting those that do. Groups internal to the University of Kansas Libraries include the interlibrary loan team, staff in other units who help with resource sharing services, technical support staff, and others in the Library interested in these services. This university library participates in two key consortiums for resource sharing: Rapid, and the Greater Western Library Alliance (GWLA). Additional important groups include the state of Kansas Regents Universities" libraries, the state of Kansas, and occasional project based groups that could include individuals from around the world. All of these groups have information and ideas to share within individual teams or groups, with other groups as well as with customers but there is limited use of Web 2.0 tools.

Customers of the University of Kansas Libraries range from individuals at the University, identifiable groups such as undergraduate students, graduate students, and faculty and staff within our University. In addition, there are customers around the world that are provided service through their local libraries via interlibrary loan. These customers need information as well as the ability to easily interact with staff to form the basis of outstanding collaboration. Senge notes that "Learning communities are most evident when people are openly discussing real problems and asking for help, and they grow as people offer help simply because they want to." (Senge, p. 49) This philosophy illustrates the need for the next generation system to support development of a "community" between library staff, their partners, and customers for a truly collaborative environment to grow together. However, this community has many factors which can influence how well it will work.

ELEMENTS TO AN EFFICIENT SYSTEM

A basic element is the ability to easily understand policies, expectations, norms, and guidelines within a group as well as commitments with other groups and to customers. The University of Kansas Libraries Monograph Cataloging and Authorities Unit utilizes a wiki to

share information within their team as well as other library staff on a library intranet website. This easy to use tool by staff provides for easy presentation of unit procedures for assisting with work. The Greater Western Library Alliance uses Basecamp software to share documents related to expectations, meeting notes, and other important documentation within the consortium. Both tools allow for information to be shared and commented on within specific groups.

These tools can include images but are more centered on the provision of text-based information. Libraries should broaden their range of communication methods within teams, groups, and with customers. Some libraries are doing that through use of videos since more people are visual based learners. The University of South Florida utilizes a youtube channel (http://www.lib.usf.edu/public/index.cfm?Pg=KeepingUpWithYouTubeGeneration) that provides a range of videos from how-to videos to a promotional video for the library. The University of Arizona provides a more extensive range of videos including campus life that helps others to begin to understand aspects of the local culture.

Providing a forum for people to share ideas and build upon information provided is another element that the use of the Internet has facilitated. This can be a very good tool although how well the information is organized and presented will impact use. The long standing most definitive source for interlibrary loan information in North America is the ILL-L listserv. This listserv has anywhere from 20 to 80 or more posts in a day ranging from simple "I need this" to posts that generate excellent threaded discussions. However, email is cumbersome to look at in an organizational sense and difficult to review days later. Mary Hollerich and Linda Frederiksen created the SHARE-ILL wiki (http://www.shareill.org/) in 2007. This wiki presents an organized attempt to facilitate sharing of information around useful categories such as "Codes and guidelines," and "Copyright and licensing." A person can easily keep up with what others have posted within these categories and provide additional context leading to knowledge being shared with everyone.

Other web elements in the business world have had heavy use and must be included in the Library environment. Most people are aware of how Amazon is impacting the world through customer reviews, and more. This empowerment of people to share with each other is an excellent example of a company providing some direct service information and then the structure that facilitates expansion of knowledge through customers interacting with each other. Some libraries have begun to offer this through their catalogs.

Another tool that is very useful is del.icio.us. This tool facilitates sharing of website bookmarks and allows someone to access her bookmarks from any computer. The University of Georgia Cataloging Department (http://delicious.com/catresources/) shares bookmarks to tools with each other that will help them complete their work. This information can also be seen by other libraries to help them as well. The University of Michigan Health Sciences Libraries (http://delicious.com/UMHealthSciencesLibraries) provides suggested websites to customers through their del.icio.us bookmarks. These types of tools exemplify ways in which teams, the broader community, and customers can easily share ideas.

Providing information or facilitating some exchanges of information between customers is not enough to be successful. Libraries should implement the tools necessary to allow customers to easily interact with library staff. Valdosta State University Library (http://www.valdosta.edu/library/ask.php) uses Pidgin at their Reference desk which supports a range of Instant Message (IM) systems in use by their customers. This makes it easy for customers to contact them in the customers" preferred method which increases the chances customers will want to interact with the library. Kennesaw State University Interlibrary Loan has taken this a step further and placed an easy to use live chat application on their interlibrary loan Facebook page (http://www.facebook.com/pages/Kennesaw-GA/Sturgis-Library-Interlibrary-Loan/27757250413). This further inserts the library into online locations where more of their customers are working resulting in greater chances of customers wanting to interact with

them. One librarian at the University of Kansas Libraries directs students in her instruction sessions to her Facebook page. This has dramatically increased her interactions with students compared to regular email. One reason for the improved connections between librarians and customers must be through the increased understanding of each other which social networking sites like Facebook helps with.

General interaction between people is important and enhances how teams and customers work. However, the fact assessment is vital and many times a missing element in a library today is inexcusable due to the tools available for use. Assessment within a team, between teams, and with customers is vital to the way any library plans to work. This should include direct feedback by customers, both internal and external; in such a way as to inform teams in a timely manner how well they are doing relative to established benchmarks as well as enabling new ideas to be generated. Comments supported and managed should include "on the fly" as well as more formal assessments where data can be mined for deeper analysis. The University of Kansas Libraries currently uses Libstats to input questions asked at the reference desk. Capturing this information facilitates providing feedback to librarians on interactions as well as aggregated data that can be analyzed for trends or additional work needed. However, this software does not interact with other tools.

Gibbons (2007) notes that "Our role as translators requires us to meet undergraduate students where they are, mentally, physically, and virtually, and help them to where the faculty reside" (p. 11). The reality is that most students are interacting within social networking sites like Facebook. Libraries must help staff understand what these tools can do and how to utilize them. Gibbons challenge goes further and helps to provide another type of service that libraries can look to build upon. Most libraries have a range of customers and can play that vital role of bridging the customers together to help with the community. This illustrates well how a tool like Facebook can help build that understanding within teams and with customers; especially those not physically located in the same area. Libraries can facilitate that interaction even while providing traditional library instruction such as verifying authenticity of a data source.

This improved understanding of each other is vital to success. David (2008) completed a study where he observed that some global project teams had successful relationships through "development of an interpersonal and collective (vs intergroup) orientation towards each other" (p. 49). Teams must understand each other better and this is easier for teams that are physically located together. It is more challenging for teams that work geographically apart. So implementation of social settings like Facebook can cut down those distances and improve understandings. Some interlibrary loan operations have historically participated in globally interlibrary loan but there are sometimes miss-understandings that lead to inefficiencies that are likely due to various factors such as cultural misunderstandings and lack of understanding and expectations of how service is provided.

Many companies in the global marketplace and a growing number of libraries understand the need to work on an international scale. David (2008) talks about companies "pursuing a dual strategy of improving the communication infrastructure … coupled with cultural trainings" (p. 25). This same logic should apply to libraries. As the Internet makes it even easier to interact globally, libraries also need to better understand who we are working with both as partners and with customers. Social networking sites like Facebook can help. In addition, simple acts of sharing photos through a photo sharing site like Flickr can lead to improved understanding or at least provide some questions that global teams or interteams can use to start to understand each other. Lester Public Library Flickr (http://www.flickr.com/people/lesterpubliclibrary/) site has images that help tell the story of what they are, help patrons share ideas with each other, and share ideas between librarians.

This understanding of each other is still not enough to truly be the most successful. Teams that work together along with the customers they serve need to establish a global sense of community. Social sites like Facebook and Flickr can help with some understanding but enhanced tools are needed to pull together a shared purpose. David (2008) notes that "For a global organization to establish a „flat", integrated and collaborative workforce, they need to establish a collective orientation based on reciprocal relationships developed through joint work" (p. 53). These tools can supplement but do not include the functions that facilitate joint work and collective orientations.

These understandings will produce hit and miss results unless global teams and teams that need to work together have a foundation of trust between them. Ardichvili (2008) discussed that we need to "build interpersonal knowledge-based trust, it is advisable to supplement online community interactions with teleconferences and some face-to-face meetings" (p. 551). Social networking tools can help. However, a tool that lets people focus on interacting together versus spending time managing a system is needed.

An example of a Web 2.0 technology that is supporting a variety of needs is Second Life. This virtual world allows people to come together from around the world to begin to understand each other; or at least what they represent as themselves in this virtual world. The State Library of Kansas (http://slurl.com/secondlife/Cybrary%20City%20II/35/197/25) provides a variety of information for those interested in Kansas as well as their services ranging from reading about famous Kansas books, to more services they can provide. In addition, Second Life is sometimes used for virtual staff meetings. Second Life includes more functional elements than most systems to support enhanced interaction and collaboration but it might be difficult for more people to use and more clunky than other tools; depending on the need.

Most library staff does not have the training and support to even understand let alone implement these individual Web 2.0 tools. This issue is even greater when one considers how much faster technology, and therefore our customers, are changing. Lawson (2006) observed that "Overall, the hallmark of Library 2.0 is rapid response to rapid change, with a premium on customer service and user involvement" (p. 20). Dramatically more development of staff to be able to more effectively interact with customers using Web 2.0 tools is needed. These efforts should be made but the extraordinary costs of this challenge demand that the library community work towards a more efficient system. The next generation solution must have more integrated functions and be easier for staff to learn and use; resulting in greater chances of adoption in libraries.

A POSSIBLE SOLUTION

This solution should include the functionality provided by the Web 2.0 tools mentioned in this paper to support individual teams, collaboration between teams and with customers. The new tool should:

• Store policies, expectations, norms, and guidelines in such a way as to allow management of these documents in the most efficient manner. This information should be easily shared without re-keying or staff needing to spend time converting the file to another format such as Word to PDF. It should be easily re-packaged in alternative formats such as youtube videos as needed to reach the widest audience possible for the appropriate need.

• Maximize the sharing of information with as many people as possible but recognize there will be times when a select group of individuals should have view and/or edit rights. Functionality like the SHARE-ILL wiki that allows individuals to respond to and contribute new ideas is critical.

- Service commitments and benchmarks should be available for staff and customers to see.

- Include a function that facilitates interaction based on themes such as a wiki as well as "real time" interactive functionality like Instant Messaging. This information should be easily stored in the system in an organized manner to make it easy to connect with the service for a "big picture" view.

- Support assessment that has both "on the fly" comments as well as more in-depth assessment with all appropriate information easily available for customers and teams to see whenever desired. In addition, the information should be easily mined and associated with other elements of the database for the "big picture" view.

- Customers must be a more integral part of the solution. Features such as customer comments in Amazon need to be incorporated and associated with relevant other aspects of the database.

- The system should be accessible independent of what computer is used like del.icou.ous bookmarks that are accessible anywhere.

- Include functionality or connect with social tools like Facebook and Flickr that support enhancing understandings between teams and customers. Once again, this information should not be independent of other service elements. For example, if outreach is important then photos in Flickr on welcoming activities in the Library should be easily connected with an Outreach Unit Service Quality wiki that promotes sharing of ideas on what the library can do to improve in this area.

- This system is must either include these functions in one system or tightly integrate them with other systems to minimize support, training, and Institutional Technology needs.

Having the technology is not enough. Libraries must be committed to development of staff and the organization in understanding the possibilities and then support staff in learning and applying these tools. Gibbons (2007) comments that "Some information is now easier to obtain from the Web than from a library, but the creation and assimilation of knowledge still require the involvement of people, and academic librarians are perfectly positioned to provide these services" (p. 9). A next generation system that is easy to learn and use and that efficiently facilitates team activity, interactions with other groups, and customers, in a global setting, results in greater efficiency. This efficient use of resources that also nurtures a collaborative environment will allow library staff and customers to focus on interacting with each other versus the minutiae of trying to learn and use disparate multiple systems. This cannot help but support generation of new knowledge and enhancing the global community.

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The Walls of Jericho? Professional Education, Development and Training in a Web 2.0 Environment: A Case Study of the UK

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Стените на Йерихон? Професионално образование, развитие и обучение в средата на Web 2.0: По примера на Великобритания

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ABSTRACT

The impact of web 2.0 and library 2.0 on the skills, education and development of the information profession is assessed here. Definitions of the key terms are given and the discussion is set within the wider context of contemporary factors in relation to the nature of a profession, professional skills, education, competency frameworks, occupational standards and professional development within a UK context. Although UK based, the research has implications for the future development of the global information profession. Specifically, this paper provides an update on previous work by the author, presented at the Sofia 2006 and IFLA 2007 conferences.

Keywords: Web2.0; Information profession; Skills; Education; Development

РЕЗЮМЕ

Докладът е посветен на въздействието на web 2.0 и library 2.0 върху уменията, образованието и развитието на информационната професия. Дават се определения на ключови термини и се слага начало на дискусия в по-широкия контекст на съвременните фактори, свързани с природата на професията, професионалните умения, обучението, рамките на компетентността, практическите стандарти и професионалното развитие в контекста на Великобритания. Макар да стъпва върху данни от Великобритания, изследването достига до изводи, свързани с бъдещото развитие на информационната професия в глобален мащаб. Този доклад представлява продължение на предишно изследване на авторката, представено на конференциите София 2006 и ИФЛА 2007.

Ключови думи: Web2.0; информационна професия; умения; образование; развитие

INTRODUCTION

Today, expectations are high…Information professionals are expected to become strategists, pioneers, consultants, change managers, fixers and makers of multi-disciplinary teams…The role of the knowledge worker will become more nebulous in concept, if not in practice…Information professionals need to keep on top of technology and stay as self-sufficient and confident in harnessing technologies as possible. The days of handing over vanilla information, unflavoured by either analysis or opinion, are over. (Hordle, 2008, p. 17)

The above quotation is indicative of contemporary opinion pieces focusing on the perceived impact of what has been categorized as the „Web 2.0 revolution" on the skills base and practice of the information profession (see for example, Browne and Rooney Browne, 2008; Casey, 2006; Maness, 2006; Miller, 2005a). The extent to which there is agreement on such developments, and the concomitant impact of these, serves as a context for an exploration of wider issues in relation to contemporary education and training for the information profession, focusing primarily on developments within the UK, but which have broader implications for the global information profession. Specifically, this paper provides an update on previous work outlined at the Sofia 2006 and IFLA 2007 conferences and extends the debate (Broady-Preston, 2006, 2007; Broady-Preston and Preston, 2007).

WEB 2.0: ANARCHY OR SYNERGY?

One of the key difficulties in addressing such topics adequately lies in achieving agreed or shared understanding of terminology. Without such an understanding, any subsequent arguments are rendered meaningless. Immediately, there are difficulties in defining the context for this discussion, the Web 2.0 environment. As Langley (2008) remarks, "Four years on from the first serious attempt to define it, there is no firm consensus about what constitutes Web 2.0" (par.1).

Similarly, Anderson (2007) observes: "Web 2.0 is a slippery character to pin down. Is it a revolution in the way we use the Web? Is it another technology „bubble"? It rather depends on who you ask. A Web technologist will give quite a different answer to a marketing student or an economics professor (p. 5). More recently, De Saulles (2008) remarked: "„Web 2.0" is not always a helpful term. It means different things to different people and can be more hype than help" (p. 10); and "The term Web 2.0 has, with some justification, been criticized as a buzzword to hype the value of companies that have yet to demonstrate viable business models" (p. 11).

The term Web 2.0 was originally coined in 2004 by Dale Dougherty (O'Reilly, 2005). Depending on perspective, Web 2.0 is either definable succinctly as a series of technologies (see for example Langley, 2007), a schematic meme map of post-dot.com bust technologies based on seven underlying principles, and thus much more amorphous than merely a group of associated technologies (O'Reilly, 2005), or, even more complex, as "new ideas in relation to the connected society" (Anderson, 2007, p. 5).

Difficulties in agreeing on a definition are further compounded by a seeming lack of agreement as to whether this is indeed a new phenomenon. Anderson categorizes this debate as „the tale of the two Tims" (2007, p. 5), contrasting the views of Tim O'Reilly and the creator of the Web, Sir Tim Berners-Lee. In a now famous 2006 podcast interview, Berners-Lee, when questioned as to whether Web 2.0 was essentially different to Web 1.0, given that the former is concerned with connecting individuals, stated:

Totally not. Web 1.0 was all about connecting people. It was an interactive space, and I think Web2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along. And in fact, you know, this 'Web 2.0', it means using the standards which have been produced by all these people working on Web 1.0. (Laningham, 2006)

An in-depth review of the arguments in relation to the meaning and significance of Web 2.0 are beyond the scope of this paper. A more recent, and arguably a more extreme view of the role and significance of Web2.0, is that offered by one pioneering entrepreneur of the dot.com boom era, Andrew Keen, who holds that it is an anarchic movement, destroying culture of real value:

As both a cause and an effect of the rise of this radically democratic Web 2.0 revolution, our traditional meritocracy of proven experts is in crisis. Newspapers are laying off more and more skilled journalists, music labels are shutting down entirely, traditional knowledge workers, book publishers and even librarians are all scrambling to survive in a fast changing economy. It‟s the perfect storm for accredited media professionals who have acquired their skills through education, hard work and self-discipline but who are now being marginalized by the Internet‟s cult of the amateur author. (BBC, Radio 4, 5 November 2008)

WEB 2.0 AND LIBRARY 2.0

The application of Web 2.0 technologies and philosophy to library collections and service provision has been categorized as „Library 2.0‟; a term first coined by Michael Casey (2006), and accepted by a range of commentators (see for example, Miller, 2005a, 2005b, 2006a, 2006b; Notess, 2006). Nonetheless, as indicated by Maness (2006), acceptance of the term and its relevance and importance to library practice is by no means universal. However, he offers his own definition for wider adoption by the library community:

Library 2.0 [is] the application of interactive, collaborative, and multi-media web-based technologies to web-based library services and collections… [It] is a user-centered virtual community…A socially rich, often egalitarian electronic space. While Librarian 2.0 might act as a facilitator and provide support, he or she is not necessarily primarily responsible for the creation of the content. Users interact with and create resources with one another and with librarians. In some ways, it is a virtual reality for libraries, a Web manifestation of the library as place. A library's presence on the Web in Library 2.0 includes the presence of that library's constituency and utilizes the same applications and technologies as its community. (par. 7)

His views on the role and importance of libraries and librarians in the Web 2.0 world are echoed by others. Anderson observes.

Libraries have skilled staff with professional expertise that can be leveraged to rise to the challenge of Web 2.0, not only in collection and preservation, but also in user-centered services. They are also the guardians of a long tradition of a public service ethic which will increasingly be needed to deal with the privacy and legal issues raised by Web 2.0. Library staff should be encouraged to think and act pro-actively about how they can bring this to bear on the development of new, library and information service-based technologies (2007, p. 54).

Increasingly there is evidence that not only are the twin concepts of Web2.0 and Library 2.0 becoming accepted, but also that development and diversification of the original ideas are taking place. In a paper presented at the 2008 IFLA conference, Browne & Rooney-Browne stated: "Library commentators continue to adapt the initial theory of Library 2.0 and

in 2006 the concept of Public Library 2.0 was introduced. It adopted elements of Library 2.0 and applied them to a public library context… (2008, p. 5). Moreover, as Ojala (2008) observed: "In the past few years, the emphasis has been on Web 2.0 and Library 2.0, both exemplified by collaboration, empowerment and innovative uses of technology. Now we"re at the point of looking for the tangible benefits of 2.0 products, services and philosophies (p. 8).

WEB 2.0: THE DRIVER FOR CHANGE IN THE SKILLS BASE?

As demonstrated above, "the implications of this revolution in the Web are enormous" (Maness, 2006, par. 3), not least for the education and practice of the information profession. Nonetheless, the debate regarding the influence of Web 2.0 as a driver for change in education and learning behavior for the information profession must be seen within the wider context of other equally powerful drivers for change within the information profession. As outlined in an earlier paper, there are several distinct but interrelated factors originating from within and outside the information profession driving change in relation to both education and professional practice in the information world (Broady-Preston, 2007). Moreover, again as noted earlier: "The concept that LIS is a profession characterized by rapid change, together with the concomitant necessity to acquire new sets of skills, are ideas which have been addressed by significant numbers of commentators during the last five to six years (Broady-Preston & Preston, 2007,290)

However, even if as Horrocks (2008) remarks "We"re all still grappling with the whole Web 2.0 thing and the massive impact of social networking tools" (p. 14), nevertheless, there is widespread evidence of these new technologies driving the acquisition of appropriate skills. Ceeney observes:

Information management in a digital world is not the same as in a paper world and virtually all of our existing paradigms are shifting. We face new challenges constantly, from data handling and data sharing though to digital obsolescence, keeping the web readable or the challenges of shifting advisory models online…We need new skills to handle this, both technical and in terms of influencing and engagement skills as the information management issues increasingly go to the heart of the business agendas. (2008, p. 12).

Similarly, Horrocks reinforces this view: "We need to address a revised skills set for the [information] community as the roles of IT and information management are fusing in many respects" (p. 14).

Finally, not only is Web 2.0 seemingly a driver for change with regard to professional skills, but in his 2008 review of the 2007 joint JISC and SCONUL *Library Management Systems Report*, Buckley Owen indicates that it has the potential to drive change which is much more fundamental, viz:

Many [higher education libraries] claim to be offering Web 2.0 opportunities for engaging users, but these seem in the main to be limited to the provision of blogs and wikis". Nothing less than a „fundamental rethink" was needed – about the nature and function of the higher education library, and the systems and processes that needed to be managed – and even a „reconsideration of the business case for the library itself. (p. 10)

The above resonates with this, arguably more trenchant, view of the current state of affairs:

The information professions - librarianship, archives, publishing and to some extent, journalism - have been rocked by the digital transition that has led to disintermediation,

easy access and massive information choice…Information professionals face the danger of becoming increasingly rudderless and disconnected from their users and paymasters due to a shortage of appropriate consumer theories, visions and a robust and appropriate evidence base. They are no longer dominant players or indeed suppliers of first choice…The characteristics of information seeking behaviour uncovered is…a revelation. It is frenetic, promiscuous and volatile and requires a radical rethink of the provision and delivery of information to digital consumers. (*CILIP's Executive Briefings*, 2008)

WEB 2.0: SEISMIC SHOCKWAVE FOR THE PROFESSION?

The more extreme claims outlined above in relation to the potentially seismic impact of Web 2.0 on library and information practice invite a review of our contemporary understanding of the terms "profession" and "information profession."Clearly, any exploration of a revised skill set for the information profession must be set within the context of a contemporary understanding of the information profession itself. As indicated above with regard to Web 2.0 and related terms, equally there are difficulties in defining not only the concept of a profession, but also more specifically, in determining what categorizes the information profession.

Information Profession and "Professionalism"

Debate as to what constitutes a profession *per se* is one which has continued for some considerable time and there is, as yet, no agreed definition or model (Broady-Preston, 2006). Nonetheless, a quick survey of definitions provided by online encyclopedias demonstrates some common understanding of the term. Encyclo, for example, lists fifteen differing definitions of the term currently (November 2008). However, all demonstrate marked similarities, allowing a simple summary to be provided by the host site as:

Profession:

1. the body of people in a learned occupation

2. an occupation requiring special education (especially in the liberal arts or sciences) (Encyclo, 2008)

More problematic than agreeing a definition for the term "profession" is achieving consensus as to what is meant by the term "information profession." Traditionally,

> not only did such relatively rigid distinctions exist between concepts of professional and non-professional roles and behaviours within LIS, but also clear boundaries were maintained between the related information professions. Whilst libraries, archives and museums have acknowledged areas of commonality in the past, nonetheless, all appeared concerned to maintain the unique quality of their respective professions. (Broady-Preston and Preston, 2007, p. 296)

Blurring the Boundaries or Dismantling the Walls?

Earlier work outlined the premise that there is clear evidence that the nature of the profession is undergoing change, not least with regard to the „blurring of boundaries" between differing sectors and differing levels of practice, viz:

> „Blurring" in this context relates to the idea that the „hard" borders which distinguished and differentiated the LIS profession from other professions/occupations are now softening, thereby rendering legitimate questions as to the extent to which LIS may be

deemed to be a unique profession…Self-evidently, if such a state of affairs does exist, then clearly this has significant implications for both the future of professional practice, and for educational development and provision. Moreover, boundaries are not only „blurred" potentially between differing professions, but also in terms of the traditional „hard" divide separating professional practice from paraprofessional work. (Broady-Preston and Preston, 2007, p. 290)

Indeed, some support and recognition of these ideas may be inferred from the opening paragraphs of the latest edition of the Body of Professional Knowledge (BPK, see Endnote 1) in which it is stated that the BPK:

sets out the broad framework of areas of knowledge and practice that organization information and library work. It is designed to be flexible and adaptable, as the areas will evolve and develop over time to accommodate changing needs. It is appropriate to library and information professionals across the sector as a whole. It also has a degree of overlap with the knowledge bases of other professions, such as the British Computer Society, UK Council for Health Information Professionals and the Records Management Society, whose activities are also concerned with those carried out in the library and information environments. (CILIP, 2006, p. 1)

Equally, support for such views is demonstrated implicitly in the views of Horrocks (2008) in relation to the fusing of the roles of IT and information management, quoted above. Similarly, Conway (2008) states:

Management of change is challenging and again this is a matter that requires detailed consideration, probably within a context of professional development. In this respect, it would be beneficial for CILIP to begin discussions with professional institutes covering culture, leisure and community services, regarding "professional standards of service" and the body of knowledge, skills, and experience considered necessary in the 21st century (p. 20)

However, more extreme views in relation to the nature of the information profession have begun to appear in 2008. Not only are views being expressed suggesting that professional boundaries are becoming blurred or fused, but indeed, of explicit support for demolishing such boundaries entirely. In an interview conducted earlier in 2008, Ceeney, CEO of the National Archives (TNA), urges that the

Traditional boundaries between information professions be broken down. „We cannot look like individual silo professions," she said. „You don"t hear people saying, "I"m a systems designer, or an architect or a programmer. They say, "I"m in IT". There is a place for specialists, but you need to see yourself as part of the whole." The current „divides" in information are unhelpful to an individual"s career. ..„We should see information management as the overarching profession, just as IT is. That doesn"t stop people from organization within it." She…[speaks of] opening up librarianship to records management, cross-fertilization, and working in a joined-up way. This is not to undermine individual professional experience, but a matter of long-term survival. „If we can do it, we have a future." (Hyams, 2008)

More trenchant still are the views expressed in the following statement on the impact of the *Digital Consumers* (2008) on the information profession, viz:

The information professions are insular and tribal and what happens outside their strictly defined discipline boundaries are not their prime concern. However the user and Internet are busy blowing-up and re-drawing these boundaries. Once neat demarcation lines between the information professions are becoming obscured as information consumers use a new-found freedom to relocate themselves and their

activities in the virtual information space and take on some of the work previously undertaken by information professionals. (CILIP, *CILIP's Executive Briefings*, 2008a)

THE WIDER WORLD – MORE WALLS OF JERICHO?

If the information profession can be deemed to be a volatile concept currently undergoing change of seismic significance, it is equally arguable that this is not a unique phenomenon. Any consideration of workforce development, employability and education/training in general must be set within a wider national and international context. Looking first at the national context, the early 21st century has seen a fundamental rethink in the UK with regard to the relationship between formal education, employers and workforce development. Reports such as the Leitch Review of Skills (H.M. Treasury, 2006) would require

a paradigm shift in UK HE from a supply-led system to a demand-led system…universities would be required to become more directly „engaged" with employers. In place of the current system whereby academics devise degree schemes and offer these to the market, it is posited that programme content would be „designed in partnership with employers and employer organizations"…Moreover, the latter would have a greater voice in determining what is taught, by whom and to what level (Broady-Preston, 2007, 4).

In July 2007, following a consultation period, the UK government published its implementation schedule for the Leitch report (H.M. Department of Innovation Universities and Skills, 2007). Post-Leitch, the UK government has established the UK Commission on Employment and Skills (UKCES), who produced their first proposals to simplify the skills system in England in October 2008 (UKCES, 2008). Moreover, John Denham, the Government Minister with responsibility for skills, reaffirmed governmental commitment to the principles outlined above, stating

We are committed to developing a demand-led skills system. But we will often need to go further if we are to support important and strategic sectors of the economy…we need to ensure that we meet our targets by developing the right skills in the right places at the right time. (Denham, 2008, p. 5)

Of further significance in the context of this discussion, he continues

training providers need to know that there will be sufficient consistent demand to justify investment in new courses or training services. Only the larger employers or the largest employment sectors are likely to satisfy this need. We cannot go back to predict and provide. It"s too slow. And we"ll get it wrong. If individual employer demand alone will not produce what we need, we need to strengthen employers" collective ability to shape the system. Employers need to be helped to co-ordinate and to communicate demand. By industry. By sector. Or by locality. Whichever turns out to be most needed and is likely to be most effective. (Denham, 2008, p. 5)

Viewed in conjunction with related developments such as Foundation degrees (see Broady-Preston, 2007, pp. 7-8), it would appear that the relationship between formal education providers and employers has changed from a "push" to a "pull" perspective.

DIGITAL INCLUSION

The above discussions relate to trends with regard to workforce development, education and training in general. Of significance in the context of any consideration of the

possible impact of Web 2.0, is the UK government's commitment to "driving forward" the digital inclusion agenda. In November 2008, the UK Government developed an Action Plan to achieve greater digital inclusion, given their stated belief that "digital exclusion is an increasingly urgent social problem" and that "there is a strong correlation between digital exclusion and social exclusion" (H.M. Communities and Local Government, 2008). This Plan is currently the subject of a widespread consultation exercise which closes in January 2009. A key aim stated in the Plan is:

> To encourage not only Government, but all service providers, to look more closely at the new **opportunities** that digital technologies offer in tackling the continuing problems of social inequalities, and to explore and understand the vital role that digital technology plays behind the scenes. This includes activities like the number-crunching and data-mashing that goes on inside government and in the third and private sectors, to develop and improve services (p. 8)

IMPLICATIONS FOR INFORMATION EDUCATION AND PROFESSIONAL QUALIFICATIONS

All the developments outlined thus far have both direct and indirect implications for the information profession. Firstly, they will self-evidently have an impact upon HE providers of formal education for information work, the university departments, colloquially known as „library schools" in the UK, who provide degree level qualifications, traditionally held to be a necessary prerequisite for professional status (Broady-Preston, 2006). However, given the introduction of non-graduate professional qualifications by CILIP (2007), such trends, especially those in relation to the governmental skills agenda, may also have profound consequences for this newer type of professional qualification. CILIP pioneered formal recognition of non-graduate work-based and experiential learning via its new category of membership, the Associate grade (ACLIP):

> Under this scheme, members of the LIS workforce without formal degree-level qualifications may apply for the new qualification, having prepared a portfolio which includes a critical assessment and reflection on their work-based learning and experience. Such candidates may eventually progress towards full Chartered Membership of CILIP without acquiring a degree in any discipline. Prior to this development, the only clear career pathway for paraprofessionals lay in acquiring CILIP accredited degree-level qualifications. (Broady-Preston, 2007, p. 6)

Whilst it would appear that such qualifications do indeed resonate with contemporary government policies, nonetheless, there are perceived threats in moves towards more generic, competency based frameworks for vocational education and training, as opposed to those specific to a sector or profession. In his 2008 review of public library standards of service in England, Conway (2008) concluded that "competency based recruitment is the norm, where formal qualifications, professional or otherwise are regarded only as „desirable"" (p. 20).

COMPETENCY FRAMEWORKS AND OCCUPATIONAL STANDARDS

The Chartered Institute of Personnel and Development (CIPD) provide a useful fact sheet *Competency and Competency Frameworks* (2008) on their website, which lists definitions of key terms, tracing the development and application of these concepts. Briefly, however, competencies (or competences), relate to expected levels of individual performance in specified areas. Of note here, is that competencies are used to define behaviors that the employer values, and therefore will organize, and in many case reward positively.

Interestingly, in line with developments outlined above, a more recent trend has emerged, in that

> …competency frameworks have become broader and more ambitious in scope and include more technical competencies. This development has been given greater momentum by the use of the PC and the intranet. (CIPD, 2008)

Competency frameworks are often developed with reference to competency lists produced to support occupational standards.

In the UK, bodies known as Sector Skills Councils (SSCs) are responsible for the design and development of occupational standards (see Broady-Preston, 2007). LLUK is the SSC which "represents employers, stakeholders and staff working in libraries, archives and information services (LAIS) across the UK" (LLUK, 2008a). In 2008, following a lengthy consultation process, it published the third edition of its National Occupational Standards for the sector (2008b.). Again, in line with the trends outlined above, these have been "developed [as] the first combined suite of National Occupational Standards (NOS) for Libraries Archives and Information Services and Records Management employers" rather than as discrete standards for each of the named sectors in previous editions. Moreover, they have been designed to support the development of competency based frameworks. Given the relative newness of the standards, it has yet to be seen whether these will be used to support the development of specific competency based frameworks for the information profession, or whether, as implied by Conway, employers will continue to apply frameworks outlining more generic skills and behaviors.

However, Broady-Preston (2007) notes "this evolving relationship between traditional, formal qualifications and newer vocational work-based approaches to learning forms but one element of a range of broadly based changes in the traditional qualifications landscape (p. 5).

DIGITAL AGE AND CPD

The H. M. Communities and Local Government consultation paper (2008) states:

The pace of technological change has been, and continues to be, exponential. It is unlikely that the rate of change in the coming decade will be any less rapid or its impact any less significant than it has been over the last ten years. Putting this in stark terms, there are now a billion PCs worldwide and, just 30 years after its debut, a mobile phone can be found in the hands of half the global population. Digital is here – there is no turning back. (p. 10)

Similarly, Conway (2008) concludes:

This situation is not new…The context though is different. In a digital age, where content creation, its production and dissemination have been organizations and information and knowledge is regarded as a commodity, some would contend the information intermediary is no longer required. But in the knowledge economy, gaps between the information rich and information poor are ever widening, and this is frequently accompanied by alienation from social and political structures. Therefore, the importance of mediated support, advice and guidance, freely accessible for the citizen, is of even greater importance if social exclusion is to be overcome. (p. 19-20)

Regardless of whether estimates of the severity of the impact of Web2.0 and Library 2.0 are accepted fully, nevertheless, in a volatile climate of rapid change, Continuing Professional Development (CPD) is clearly required if professionals are to keep abreast of new skills and knowledge. The Professional Development Partnership defines CPD as "the systematic maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for the execution of professional duties throughout working life"

(2008). The above definition has obvious resonance with concepts of employability discussed in an earlier paper (see Broady-Preston, 2007).

In July 2008, CILIP Council took the "far-reaching decision" to make CPD mandatory for "active chartered practitioners," with proposals to phase the transition from a voluntary to a mandatory scheme over a number of years, the timetable being as yet, unspecified (CPD Scheme…2008, p. 5). In an article assessing the significance of this decision, the conclusion was that

> It will be simpler for employers to understand, will enable staff to improve their performance, and will bring benefits to members, employers and CILIP. Knowing that chartered members skill-sets are up to date will build employer confidence in CILIP"s chartered qualification and improve the status of library and information professionals vis à vis other professions (p. 5).

BEYOND THE UNITED KINGDOM

In terms of formal education for the information profession provided by Higher Education Institutions (HEIs):

> In terms of the curricula, there may…be a degree of uniformity amongst the European LIS educators. Moreover…the concept of learning outcomes and the three cycle system have been adopted and are largely in place within Europe…such developments are facilitating new relationships and partnerships…exemplified by the…degree program offered jointly by three European Universities (Tallinn, Palma and Oslo) under the terms of the Socrates Erasmus-Mundus scheme. (Broady-Preston, 2007, p. 12)

Nonetheless, several commentators have observed difficulties in achieving a pan-European curriculum, resulting from differing approaches to curriculum design and delivery, despite the seeming unifying influence of the Bologna Agreement (see for example, Audunson, 2005; Broady-Preston, 2007; Johnson, 2007; Tedd, 2008).

Moreover, in the UK at least, given the rapidity of change reported above and the concomitant impact on curriculum development it is difficult for university curricula to keep pace, given the validation and accreditation processes currently in operation. Degree schemes in UK universities are accredited currently for a five year period by CILIP, unless specific changes are reported to the Institute by the universities in the interim, and re-accreditation sought (CILIP, 2008b). From the initial market research for a new degree to the first intake of students on such a scheme may take from two to four years depending on internal processes within each university and the degree of success at each stage. Therefore, the extent to which universities are able to anticipate and respond to rapid changes in vocational practice is at least open to question.

Finally, the trends outlined thus far in relation to the breaking down of barriers between professions, apply equally arguably to discipline boundaries, resulting currently in a more heterogeneous diet of information related degree programs. Amongst the UK "library schools" for example, Sheffield is the only department to offer degrees in Chemoinformatics (University of Sheffield, 2008), whilst Aberystwyth is the only department offering a degree scheme in Historical and Archival Studies (Aberystwyth University, 2008). Both these examples require not merely an inter-disciplinary approach, but a fusion of differing disciplines to create a new, composite area of study.

CONCLUSION

The above is by no means a definitive exploration of all the issues which could be raised in relation to the contemporary volatile environment within which education, training and development of the information profession is taking place. Specific skill sets resulting from the demands of technological change are not addressed here, regardless of how the nature of such change is defined. If the pace of change is so rapid, then self-evidently, any exploration of particular competences required currently has the potential to be out of date before this paper is published.

However, what has emerged from this review is that many of the previously enshrined shibboleths of professional education, training and development are, if not being dismantled entirely, are at least being questioned actively and undergoing a fundamental re-examination. Barriers relating to qualification levels, to professional practice and to career development, previously perceived as insurmountable are being circumvented or indeed demolished with regard to the information profession. The extent to which what is recognized presently as Web2.0 is the direct or sole cause of such dramatic change is open to question.

As Conway suggests above (2008), the profession has encountered periods of profound change in the past. The degree to which contemporary developments pose a threat to the information profession per se arguably lies in the extent to which they are perceived as such. Evidence of the profession‟s willingness to embrace profound change positively is outlined above, in relation to new approaches to the qualification structure, organizational work-based learning and the need for CPD, and in new partnerships of content and of providers. Although a pan-European information curriculum is not yet established and indeed, may not prove to be achievable in the long term, this need not be perceived as a failure of any kind. Rather, exploration of new partnerships, new ways of working flexibly with new partners, such as shown by the Erasmus Mundus program outlined above, could, and possibly should, be viewed as a positive development. Taken in conjunction with perceived willingness to open up new career pathways for all within the information profession, Web 2.0 may be seen as but one factor in breaking down the walls of Jericho in order to create new opportunities for individuals and organizations.

ENDNOTES

1. The BPK is produced by the UK Chartered Institute of Library and Information Professionals (CILIP) which is the leading professional association for those practicing in the information profession (see Broady-Preston, 2006).

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Teaching Reference and Readers' Advisory in a Web 2.0 World

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Преподаване на справочно-библиографска дейност и работа с читателите в условията на Web 2.0

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ABSTRACT

As Web 2.0 expands further into public and academic library services, professors of library and information science must consider the impact on their courses. How or even should they integrate Web 2.0 technologies into their courses? What do students need to know about these technologies and what do students expect to learn? In this paper we will focus on the impact of Web 2.0 on the teaching of reference and readers" advisory courses in library and information science masters" degree programs. Many libraries, both in North America and Europe, now offer reference and reader"s advisory services through online chat, instant message, SMS text message or even via social networking sites, such as Facebook or Beebo. These services are in addition to telephone and email reference services, all of which have made face to face reference services less common in today"s libraries. What does this mean for reference and readers" advisory courses? Moyer and Weech, both instructors of reference and readers" advisory services courses, investigate ways to integrate Web 2.0 into these courses, students" expectations and attitudes towards the use of these technologies in their courses, and faculty expectations and attitudes towards Web 2.0 in reference and readers" advisory services courses. These will be uncovered through surveys of students currently or recently enrolled in reference and readers" advisory courses, and faculty teaching reference and readers" advisory courses. While the initial surveys will be of primarily North American students and faculty, part of the presentation of the data at the conference will include discussion time, so as to learn more about European LIS programs use of Web 2.0 and uncover differences and similarities between North American and European integration of Web 2.0 into reference and readers" advisory courses.

Keywords: *Web 2.0; Reference; Readers' advisory; Reader guidance; Teaching*

РЕЗЮМЕ

Професорите по библиотечно-информационни науки трябва да съобразяват курсовете си с разширяването на Web 2.0 в посока на обслужването в университетските и обществените библиотеки. Как те трябва да интегрират технологиите на Web 2.0 в лекциите си и дали трябва да го правят? Какво трябва да знаят студентите за тези технологии и какво те очакват да научат? В този доклад ще се спрем върху въздействието на Web 2.0 върху обучението в курсовете по справочно-библиографска работа и работа с читателите в магистърските програми по библиотечно-информационни науки. Днес много библиотеки в Северна Америка и Европа извършват справочно-библиографско обслужване и общуват с читателите чрез чат онлайн, електронни съобщения, SMS или дори чрез сайтове на социални мрежи като Facebook или Beebo. Това обслужване представлява допълнение към справочното обслужване по телефон или електронна поща, което все повече измества традиционното справочно обслужване в съвременните библиотеки. Какво означава това за курсовете по справочно-библиографска работа и работа с читателите? Мойър и Уич, които преподават справочно-библиографска работа и работа с читателите, изследват пътищата за интегриране на Web 2.0 в техните лекции, както и очакванията и отношението на преподавателския състав към Web 2.0 в курсовете по тези дисциплини. Резултатите ще се постигнат чрез анкетни изследвания сред студентите, които участват или наскоро са се включили в курсовете по справочно-библиографска работа и работа с читателите и сред преподавателите, които водят тези курсове. Тъй като първите проучвания ще бъдат извършени предимно между североамерикански студенти и преподаватели, като част от представянето на данните на конференцията ще бъде включено и време за дискусия, за да научим повече за използването на Web 2.0 в европейските програми по БИН и да се установят различията и приликите между начина на интегриране на Web 2.0 в курсовете по справочно-библиографска работа и работа с читателите.

Ключови думи: Web 2.0; справочно-библиографска работа; работа с читателите; Обучение

INTRODUCTION

The term "Web 2.0" appears to have begun as the marketing title of a June 2004 Conference on "The Web as Platform" developed by Tim O'Reilly of O'Reilly Media, a private consulting firm (http://web.archive.org/web/20040602111547/http://web2con.com/). In 2006 O'Reilly expanded his definition to:

> Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (This is what I've elsewhere called "harnessing collective intelligence.") http://radar.oreilly.com/archives/2006/12/web-20-compact.html

But Web 2.0 has evolved well beyond the commercial and technical definition of Tim O'Reilly and his consulting service. Today, in the library context it refers to the use of technology that permits libraries and users to interact through web-based media. The 2006 definition involving "harnessing collective intelligence" is an important part of the current definition, but has gone beyond a "business revolution" to a social revolution within organizations and institutions working with groups and individuals to meet group and individual information needs. In this paper, we will briefly review the literature on Web 2.0 as it applies to library

services, and present the results of a survey of LIS students and LIS faculty on their use of Web 2.0 technology.

LITERATURE REVIEW

The review of the literature found many books and articles on Web 2.0 and Library 2.0, as well as many sources discussing the general impact of digital technology on libraries, but very little was found on the specific subject of this paper, "Teaching Reference and Readers' Advisory in a Web 2.0 World." We will not get into the argument of the value or appropriateness of Web 2.0 technology for library services in this paper, but for those who have an interest in this issue, the best place to start may be Michael Gorman's often-cited blog essay, "Web 2.0: The Sleep of Reason" (Gorman, 2007).

The term "Library 2.0" is defined by Jack Maness as: "the application of interactive, collaborative, and multi-media web-based technologies to web-based library services and collections…" (Maness, 2006). Boxen (2008) presents a review of the Web 2.0 applications in libraries. Boxen's review focuses on what she considers the "Key" Web 2.0 applications. They include blogs, wikis, tagging and other social bookmarking sites, audio blogging and podcasting, multimedia sharing, RSS and syndication, and Multi-user Virtual Environments (MUVE). She observes that there is an absence of research reports that provide data on the use of Web 2.0 in the literature of librarianship. She speculates that the reason may be because it is difficult to generate evidence-based research on the subject (p. 30). Some of the sources not cited by Boxen concerning Web 2.0 include the articles by Jayasuriya and Brillantine, Reichardt, Watstein and Bell, and Lankes, Silverstein, and Nicholson.

Jayasuriya and Brillantine (2007) discuss Web 2.0 in the context of a law library. Issues related to computer and information literacy among law students, usability studies, and the development of information literacy standards are some of the topics discussed. They also discuss new services law librarians could create by incorporating Library 2.0 principles into law library services. In 2008, Reichardt discussed Web 2.0/Library 2.0 applications that are appropriate for providing Internet reference service to undergraduate engineering students. His advice is to try a variety of Web 2.0 technologies and when you find one that works for your organization, stick with it. Watstein and Bell (2008) debate the future of the reference desk in a point-counterpoint format. They respond to topics ranging from "The NetGen and Millennials can go it alone?" to the impact of information literacy on reference and information desk use. While not speaking directly to Web 2.0 issues, they do provide a lively discussion of the future of the service model that is often most impacted by Web 2.0 technology. Lankes, Silverstein, and Nicholson (2007) provide a review of the opportunities and challenges of Web 2.0/Library 2.0 participatory networks, with discussion of conceptual framework, and recommendations for further discussion. They suggest that librarians must be active participants in the ongoing conversations about participatory networking as libraries morph into „the participatory library." In reviewing the literature we found a number of recent books on Web 2.0. *Library 2.0 and beyond: innovative technologies and tomorrow's user* (Courtney, 2007) and *Web 2.0 for librarians and information professionals* (Kroski, 2008) are two of the more recent titles. Neither in these books nor in the rest of the literature did we find prior studies that explored the topic that we are exploring in this paper.

METHODOLOGY

To answer our questions on the use and impact of Web 2.0 tools in MLIS classes, a two part survey was developed. Part 1 was aimed at students who had recently taken a reference or readers' advisory class that included some use of Web 2.0. Using a web based survey

tool, the questionnaire was sent to 60 students who had recently completed courses on reference and online services, or adult readers" advisory services, in the spring and summer of 2008. Part 2 of the survey was sent out to LIS faculty who subscribe to the jESSE listserv, a discussion group that, since 1994, promotes the discussion of library and information science education issues in a world-wide context" (http://web.utk.edu/~gwhitney/jesse.html). An estimated 1200 people subscribe to jESSE, representing LIS programs from many different countries, as well as most LIS programs in North America. Both surveys asked for information in three areas: personal use of Web 2.0 tools, in class use, and attitudes towards using Web 2.0 in the LIS classroom. Both surveys were available for responses for one week, from September 21 to 28, 2008. Thirty students and sixty-eight faculty responded to the respective surveys.

DISCUSSION OF STUDENT RESPONSES

The students who responded to the survey come from a variety of ages, which is common in LIS programs. Eleven students were under 30, 10 were between 30 and 40, four were between 40 and 50, and three were over 50. In their personal lives the students who responded were quite knowledgeable about Web 2.0, with most respondents using or knowing about the following (from most used to least used): wikis, video sites (Youtube, Hulu, etc.), photosharing (Flickr, Picasa, etc.), blogs, and general social networking sites. Significant minorities do not use or know about Google docs, podcasting and book social networking sites. Most notably, the majority of respondents do not use or know about Twitter or other microblogging tools. Figure 1 charts the student usage.
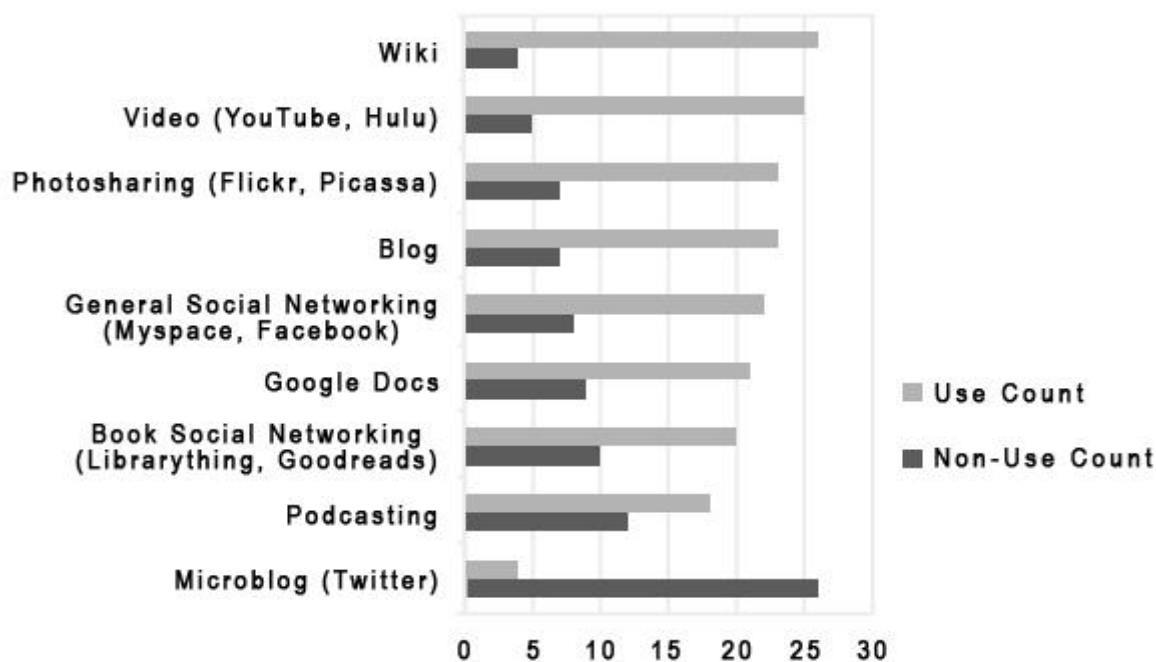
Figure 1: Personal use of Web 2.0 tools

Despite their knowledge of the Web 2.0, students did not report significant use of Web 2.0 tools in the LIS classes. Of the tools and activities that were used, reading a wiki was the most common, followed by reading a blog post and contributing to a wiki. All other activities were completed only by a minority of the respondents, with less than 15% viewing online video, accessing course materials on a social networking site, or commenting on a blog post. Despite their knowledge of these tools, students are not using them as part of their LIS

courses. Is it because the faculty are not promoting them? Is it because they do not think they are okay to use in class?

The third part of the survey asked about the tools that the students did use; how did they feel about their use as part of the class? Five activities received enough ratings to generate data: read a wiki, contribute to a wiki, view online video, contact a class member on a social networking site, and read a blog post. All of these received positive feedback with the majority of the students happy to have the opportunity to use the tools and feeling that they enhanced their learning. One thing that can be concluded here is that students do like using Web 2.0 tools in their classes and are open to trying new tools and activities.

DISCUSSION OF FACULTY RESPONSES

Sixty faculties responded to the survey and represented a range of online and in-person teaching experience. See Figures 2 and 3.
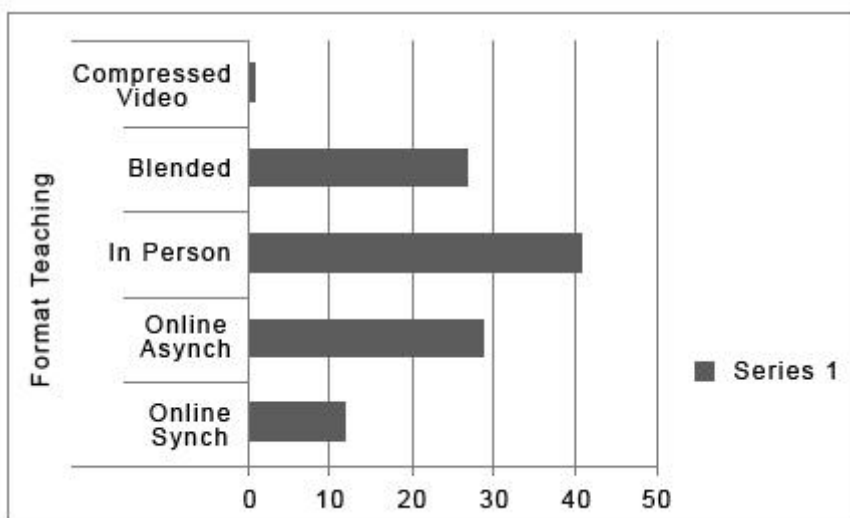
Figure 2: Teaching format of faculty respondents
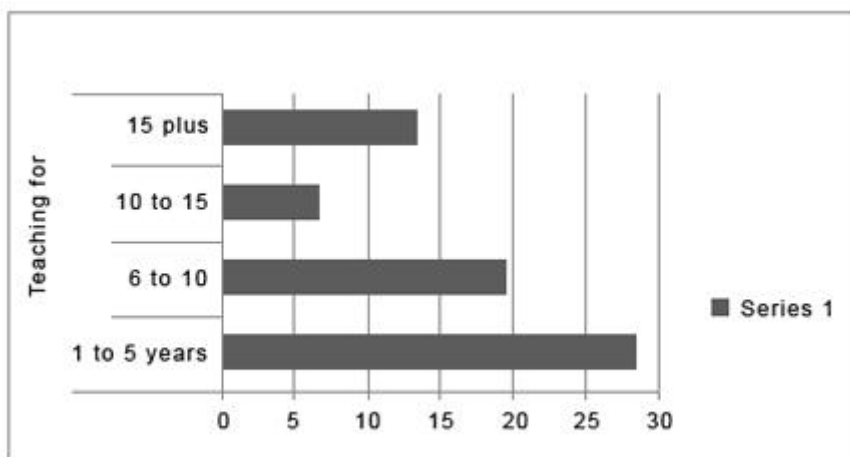
Figure 3: Number of years respondents have been teaching

In their personal lives faculty have a similar pattern of use of Web 2.0 as the students, once again with Twitter being the unknown and unused outlier (See Figure 4).
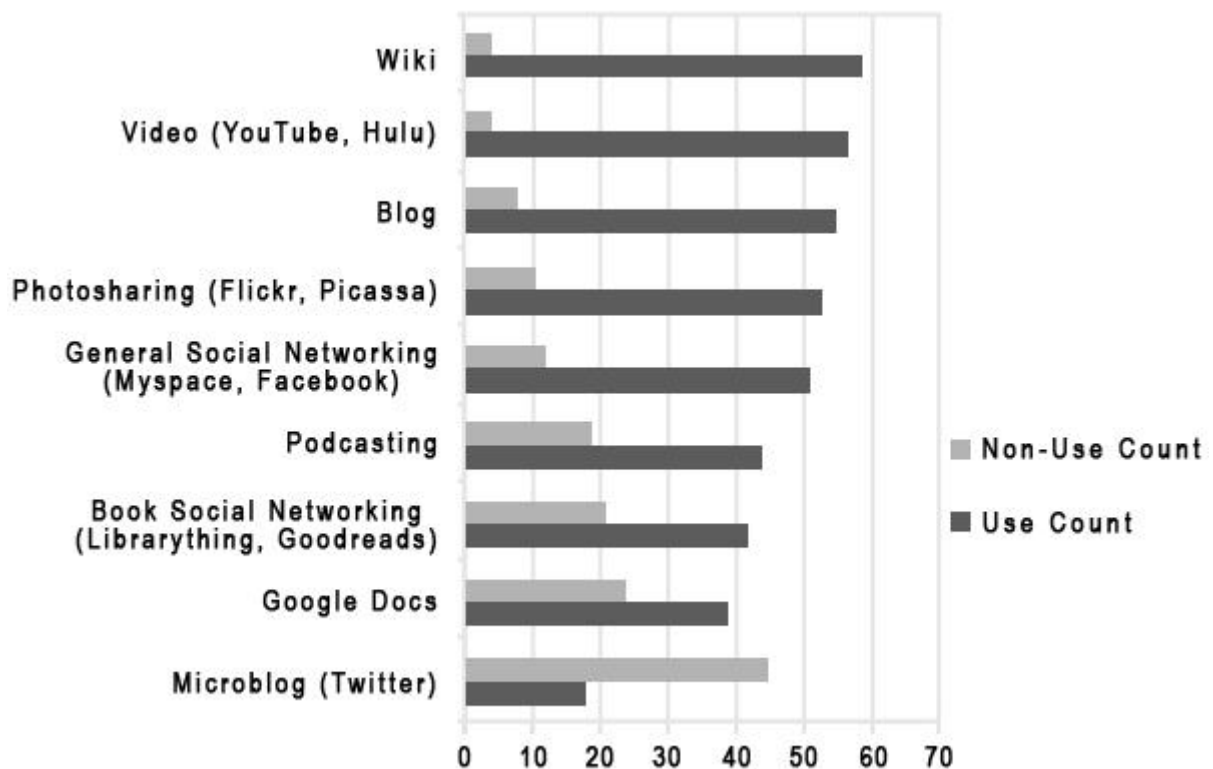
Figure 4: Faculty personal use of Web 2.0 tools

But when it comes to class use, faculty are much less likely to use Web 2.0 tools and activities. Even the most popular, such as reading a wiki, viewing online video and reading or creating blog posts, had significant minorities (25% to 40%) who rarely or never used any of these activities. Faculty are not translating the Web 2.0 tools and activities that they are using in their personal lives into the classroom. When we look at what tools and activities faculty did not use, the pattern becomes even clearer. The four least popular were: creating a post on Twitter, commented on a video on a social networking site, followed someone on Twitter, and uploaded video to a social networking site. Less than 10% of the respondents did any of these activities.

While it cannot be determined if the sample used for this survey is representative of all LIS teaching faculty, because it was distributed electronically, the survey would be more likely to get responses from people who are using the Web 2.0 tools. Even more, the title of the distributed survey was Web 2.0 and LIS classes, which might have led those who were using Web 2.0 tools and activities to respond faster than those who were not. None of these questions can be completely answered, based on this survey, but this is a good start.

Continuing with in-class use, when faculty did use Web 2.0 activities and tools, what did they think of them? Remember, nearly all the students liked and felt positive about the use of any of the Web 2.0 activities and tools that they encountered or used. Faculty had much more variance in their responses, from everyone who used blogs really liking them, to most of those who used Twitter not only disliking it, but feeling that it was harmful to student learning. Social networking was also not well liked by faculty. Many did not like using videos on a so-cial networking site, or accessing course materials on a social networking site (including book oriented sites like Librarything or Goodreads.) One interesting result is those activities that had the highest use rates from more than half of the respondent were those that were the most well liked. Are faculty more comfortable using what they know? Blogs and wikis were high in personal use too. Or are they trying a lot of different things and some of them are not working? Or are faculty inflexible when it comes to the use of these new tools and activities in their classes? Nearly all the students who used Web 2.0 tools and activities in their classes liked

them, which is a significant contrast from the several activities that received majority dislike from the faculty. These are important questions that should be addressed in a follow-up study.

CONCLUSION

Web 2.0 tools and activities, are being used by most LIS students and faculty in their personal lives. With the exception of Twitter, nearly all respondents knew about or have used most Web 2.0 tools. This is good news for faculty wanting to use these in class, because their students should already have some familiarity from their personal lives. Students are willing to use them in class, and will sometimes use them when assigned independent work. Most importantly, students who use Web 2.0 tools and activities are happy to have done so. For the most part, they don"t feel that using these tools harms their learning or makes their classes unenjoyable. Now we know that faculty do not have to worry so much about how their students will respond – they like using these tools and activities. The most important finding from this study comes from the faculty themselves. They are not using Web 2.0 tools and activities at nearly the same rate in their classes as in their personal lives, so the first step is to start incorporating more of these into class assignments, as well as encouraging students to use them for individual and group assignments. Faculty may also need to be more open minded about the use of these activities and remember that the students do like them, even if they are certain about their educational value.

Lastly, Web 2.0 tools and activities cannot be ignored in the LIS curriculum. Web 2.0 has not only spread into our personal lives, but has become an important part of many daily activities in libraries and in outreach programs. Many teen programs and college reference services maintain Facebook or MySpace pages. Some reference librarians are making themselves available on Twitter. Wikis are being used as collaborative work tools in all types of libraries and blogs are even more common, both for in house staff use and for patrons. Use of Web 2.0 tools and activities in LIS classes is clearly still an emerging area that has yet to be fully embraced, especially by LIS faculty. Yet we see a lot of exciting potential for their use and think that the findings of this study are supportive of increased use in the LIS classroom, and we encourage everyone to add one Web 2.0 tool or activity to their next class.

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Equivalency and Reciprocity of Qualifications for LIS Professionals in a Web 2.0 Environment

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Еквивалентност и реципрочност на квалификацията на професионалистите по БИН в средата на а Web 2.0

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ABSTRACT

In the age of Web 2.0 and globalization of information, the challenge of information professionals included the determination of equivalent educational experiences as professionals move more freely in the international information environment. Reciprocity of degrees among recognized LIS education program is one possible solution, but the establishment of an international program of reciprocity has been difficult up to this time. The authors discuss the background of efforts over a 30 year period to develop acceptable guidelines for international equivalency and reciprocity of qualifications for LIS professionals by IFLA and other library interests. The challenges of the latest IFLA effort our detailed and options provided in a 2.0 web environment are explored. The possibility that applying the principles of interactivity of the web in the 21st century to provide a solution to the equivalency and reciprocity problem are analyzed and specific proposal are presented for discussion. The results of surveys of library education professionals are presented and specific proposal for the future are outlined.

Keywords: *Web 2.0; LIS education; Reciprocity; Equivalency; Professional qualifications*

РЕЗЮМЕ

В епохата на Web 2.0 и глобализацията на информацията към предизвикателствата пред информационните професионалисти се добавя определянето на равностоен образователен опит, тъй като те се движат по-свободно в международната информационна среда. Едно от възможните решения е равностойност на дипломите при утвърдена образователна програма по БИН, но досега установяването на международна програма

за равностойност е било трудно. Авторите обсъждат положените от ИФЛА и други заинтересувани страни усилия в течение на 30-годишен период да се разработят приемливи насоки за международна еквивалентност и реципрочност на квалификациите на професионалистите по БИН. Разгледани са предизвикателствата на най-скорошното усилие на ИФЛА и възможностите, които предлага средата на Web 2.0. Анализирана е възможността да се приложат принципите на интерактивността в мрежата през 21 век като решение на проблема за еквивалентността и реципрочността и се представя за обсъждане конкретно предложение. Представени са и резултатите от анкети между професионалисти в областта на библиотечното образование и са изложени конкретни предложения за бъдещето.

Ключови думи: Web 2.0; образование по БИН; реципрочност; еквивалентност; професионални квалификации

INTRODUCTION

Prior to the 21st century and the development of Web 2.0 technology and culture, There is a long history of efforts to develop procedures and provide guidance in assessing the equivalency of educational qualifications for professional librarians and reciprocity of degree and certificate programs across national borders. Much of this work has been done by library organizations and associations in countries with long standing degree and training programs for professional librarians and other information professionals. The United States, Canada, and the United Kingdom have been in the forefront of many of these efforts.

The International Federation of Library Associations and Institutions (IFLA) through its Section on Education and Training began discussing the issue of equivalence and reciprocity of LIS degrees and qualifications in 1977 (Harbo and Bowden, 2004, p. 2). These early efforts to establish guidelines for equivalence included consultation with ICA (International Council on Archives) and FID (The International Federation for Information and Documentation). FID of course, no longer exists. The ICA is still active (http://www.ica.org/). But the attempts to establish guidelines and implement procedures proved to be elusive.

Between 1977 when the issue was first introduced in the Education and Training Section of IFLA and 1987, the topic did appear as part of discussions in the meetings of the Section's Standing Committee. After ten years of such discussions, a working group was established and developed the following recommendations in 1987.

I. Adopt the Unesco standards of Level and Length of Programs for LIS education.

Primary and secondary level, generally of 11-12 years total

Tertiary level (Undergraduate level) of 3-4 years after secondary level

Post-tertiary level (Graduate or post-graduate level

(It was recognized that professional LIS education would be at the tertiary and/or post-tertiary level in most countries.)

II. Course and Program Content would be based on specified topics such as appear in the current IFLA Education and Training Section Guidelines for LIS Programs. While recognizing that the IFLA developed *International Guide to Library and Information Science Education (The 1995 edition was entitled World Guide to Library, Archive, and Information Science Education)* would assist in determining the content of specific programs, the Working Group did make three specific "final recommendations":

1. To install an International Committee of Experts for the assessment of LIS education on advisory basis;

2. To develop an International Resource Center for relevant information on LIS education;

3. To endorse the national and international recognition of LIS professional qualifications, and to promote the professional status of librarians and information scientists in all countries.

The working group also presented a "model form" for use in assessing LIS education. The form was intended to be used in conjunction with the information provided in the *International Guide* and was designed to be completed by individuals and their LIS educational institution for those seeking recognition of their LIS degrees or certificates in other countries. There is no evidence that any of these recommendations was adopted or implemented, nor any history of the use of the recommended forms by IFLA or any other organizations. This fact is confirmed in a 25 June, 2007 e-mail communication with Josephine Fang, in which she reported that "…after checking with Edith Fischer of Austria, we agreed that the recommendations had only been verbally discussed, but no formal further action was taken." Thus the most significant prior attempt to establish guidelines for equivalency and reciprocity in LIS qualifications ended without any action on the part of IFLA.

In 1991, Josephine Fang and Paul Nauta summarized the contributions of IFLA to LIS education. (Fang and Nauta, 1991). This article reviewed the events in the 1980s and again emphasized the importance of the *International Guide* as a tool to be used in conjunction with the 1987 "Guidelines to Equivalence and Reciprocity of Professional Qualifications." The development of the forms for establishing equivalency of degrees was also noted. But no examples of implementation of any of the recommendations in the 1987 could be found in the literature review for this paper. The article did announce the plans by the Education and Training Section to issued a revised and expanded edition of the *International Guide* which was eventually published in 1995 under the title *World Guide to Library, Archive and Information Science Education* (Fang, et. al. 1995).

Harbo (1994) reviews the functions of the European Association for Library and Information Education and Research (EUCLID) and suggests that this organization might be the appropriate regional organization to oversee the determination of the equivalence of professional qualifications in the LIS field (p. 3).

In Denmark in 1997, the IFLA Education and Training Section workshop had the theme of "Equivalencies and Harmonization of Library and Information Degrees" and was held at the Royal School of Library and Information Science. Contributors included Aira Lepik (Estonia), Brown and Pollack (US), Greene (Australia) and Banranababi (Iran). The Lepik and Brown and Pollack papers were specifically on the theme of equivalencies and the other two papers are not available in the proceedings (Harbo and Bowden, 2004, p. 14).

Dalton and Levinson (2000) reported a study at an IFLA's Education and Training section program on LIS qualifications worldwide. The stated goal was to increase international parity of LIS qualifications to facilitate international mobility of LIS professionals. The paper presented details three possible approaches to establishing international parity of LIS professional qualifications:

1) A database of national accreditation criteria by national library associations

2) International expansion of the existing NARIC (National Academic Recognition Information Centres) service in the EU

3) A detailed database of LIS course content and duration of the course work for each LIS education institution in the world.

The first approach, the database of national accreditation criteria, proved impractical since it was discovered that most of the world did not have accreditation criteria specifically for LIS education. Turning to the second approach, the expansion of the existing NARIC service internationally, Dalton and Levinson concluded that since NARIC is limited to only EU countries, to expand the database internationally would be an overwhelming task. And even if accomplished, it would only provide "generic" equivalencies between countries and would not meet the needs of those countries that have professional accreditation of programs or courses, such as the UK and USA. As to the third approach, the development of an international database of course titles and content to provide the basis for assessment of specific LIS education programs, the researchers concluded that further investigation would be necessary to determine its feasibility. They noted the challenges of keeping such a database current as well as the recognition that most countries do not have library associations that oversee the quality of LIS education programs. These facts were seen as significant barriers to the realization of the third proposed approach.

Dalton and Levinson (2000) conclude their report with the note that they were continuing their investigations and collecting further information from professional organizations concerning the individual system of LIS education and professional recognition and qualifications. But communications with Dalton indicate that they did not follow up with further research (Dalton, email communication, May 30, 2007).

In 2004, Koehler presented an international review of cooperative organizations for LIS schools as background for the possible establishment of LISNET-ECS (a LIS Network for LIS programs in eastern, Central, and Southern Africa. He noted the need for international as well as national standards or equivalencies for qualifications for professional librarians. His paper provides a review of regional and national organizations and associations that are involved with promoting communication and cooperation among LIS programs, ranging from ALISE in the U.S. and Canada, EUCLID in the EU, and the AIESI (*Association Internationale des Écoles des Sciences de l'Information*) in Europe and Africa. But one organization that specifically attempted to establish an international network of schools of library and information science was SLISNET (Schools of Library and Information Science NETwork). This project was funded by UNESCO. The organizational meeting was held in 1995. The formal proposal did not specifically mention the role of establishing equivalency and reciprocity mechanisms. It did list as one of its proposed activities the establishment of monitoring and evaluation mechanisms (http://www.enssib.fr/autres-sites/SLISNET/concpapen.htm, paragraph, 3.3.7).

Monitoring and evaluation mechanisms could certainly be a foundation for eventual equivalency determination. Unfortunately, SLISNET has been inactive since the late 1990s and in a 2001 article, Johnson (2001) indicated that "…UNESCO's SLISNET project appears to have stalled, partly because of linguistic and cultural barriers, and partly because UNESCO lacked the funds and political will to sustain it, but perhaps also because most of the prospective participants had never met each other and therefore lacked confidence in using the system" (p. 3).

In 2007, Michael Dowling of the International Relations Office of the American Library Association reviewed international credentialing from the perspective of the American Library Association. Dowling (2007) called for IFLA to identify accrediting agencies for LIS programs in each country so libraries could determine degrees and/or credentials that are equivalent to ALA accredited degrees. Of course, as we know from the above literature review, the challenge is that few countries outside those in the Anglo-American tradition have an organization or national body that has the responsibility to recognize LIS education programs.

Quality Assurance of LIS education and training programs is, of course, an essential component of any guidelines for equivalency and reciprocity. The assumptions in much of the

research analyzed to this point seems to be that the assurance of quality can be assessed using existing measures, such as established accreditation or certification, or by reviewing the course content and length of instruction of educational programs. But some have noted the limitation to these assumptions, namely that only a few countries, and primarily those in the Anglo-American tradition of education, have formal and recognized accreditation or certification systems for LIS professional qualifications.

Tammaro completed her study of Quality Assurance models in LIS programs in 2005. She concluded that learning outcomes could be a critical indicator of quality of LIS programs. She specifically recommended that a benchmarking system be established by sharing best experiences of LIS schools creating benchmarks to assess quality through a peer review process She also suggested a second approach linking quality assurance of LIS education to the assessment of LIS programs by professionals who successfully completed the courses at each school (2005, p. 19).

Ambiguities are not lacking either for the learning outcomes approach as a whole. Learning outcomes has been represented as a paradigm shift from the traditional modes of measuring and expressing learning, characterised as input approaches (with emphasis on the number of teaching hours and the sum of resources), to output focused techniques using learning outcomes and competencies. The learning outcome approach focuses attention on explicit and detailed statements of what students learn: the skills, understanding and abilities the course seeks to develop and then test. In practice it is not clear what the learning outcomes subject to evaluation are, and hence it is not easy to decide how they can be measured.

It should be noted that when speaking of the outcomes that students ought to demonstrate at the end of a course, the concepts frequently remain vague and confused. The main reason for the confusion appears to be due to the two different approaches that can be pursued. In the first approach the learning outcomes are understood as skills. These are based on the lists compiled either by employers or by many professional associations. Such lists, however, do not contemplate the disciplinary knowledge or the ethics of the librarian. They are, moreover, subject to continual change. This approach to learning outcomes is linked to the problem of professional recognition and the accumulation of the various credits comprising those related to formal learning and university training. In this approach the learning outcomes are linked to professional levels or grades and the knowledge or skills required for each level. In another approach the learning outcomes are understood as the result of a training process. In this case they are based on theories of learning, and the definition is linked in particular to Bloom's learning taxonomy (Bloom, 1964). The second approach is that pursued by the educators.

There are limits to using learning outcomes as a measure of Quality Assurance for LIS educational programs. Not the least of the challenges is developing a list of core competencies that can be agreed on internationally. But it is the conclusion of this study that learning outcomes should be investigated as a means of establishing Quality Assurance when determining the feasibility of guidelines for equivalency and reciprocity of LIS Professional Qualifications.

Based on this review of the background of dealing with Equivalency and Reciprocity of LIS Qualifications, it is clear that what is lacking is a uniform basis of assessing equivalent degrees internationally. For a small number of countries maintaining LIS education in the Anglo-American model, there are organizations and/or national bodies that provide a basis for making some comparisons and assessments. But for most of the rest of the world, there are no organizations or national bodies that take on this responsibility. The question remains, what is the feasibility of developing some form of procedures or guidelines that will be applicable internationally? The establishment of an international database of course content and assessment measures does not seem sustainable in terms of the time and expense that would be required to establish it and maintain it over time.

That leaves us trying to determine what measures would be acceptable for reciprocity of degrees in those countries that have formal accreditation or credentialing programs and what would be acceptable in those countries that have no such formal process of accreditation or credentialing in place. In an attempt to determine what would be acceptable, a survey of LIS educators was undertaken.

SURVEY OF LIS EDUCATION PROFESSIONALS

In 2007 and 2008 the authors developed a survey that was distributed to LIS education professionals internationally. The purpose of the survey was:

- To determine acceptable criteria and procedures for establishing equivalency and reciprocity of LIS Professional Qualifications

- To determine best measures of quality assurance of LIS educational programs in the judgment of LIS professionals and LIS faculty worldwide.

In addition, it was hoped that the responses would provide an indication of the feasibility of establishing the three 1987 IFLA Education and Training section recommendations that are listed above in this paper.

Information was also gathered that was intended to assess the preferences for quality assurance procedures for LIS programs.

1. A Peer review team of LIS Professionals and Faculty to select best experiences Benchmarks of LIS Professional Education Best Practice

2. A database of LIS Professionals survey results of the programs where they have taken courses

- Student evaluation of learning experience

- Employer evaluation of employee learning outcomes

- Exams used to assess student learning outcomes.

- What should be the basis of assessing learning outcomes?

    o   Core course content as specified in IFLA standards?

    o   Employer established first day on the job criteria?

- How much is each of these options worth paying for (Contingent Value)

The survey was conducted by email. The resources of the Education and Training Section of IFLA were utilized to facilitate the data gathering. In addition, two focus groups have been held; the first in September 2007 at a conference on LIS education in Lisbon, Portugal, and the second during a European regional workshop organised in Zadar, Croatia, in January 2008.

The authors recognize that the low response rate from US and Asia and the lack of response from any of the LIS educators from Africa limit the ability to generalize from the results, but we present the findings here for review and discussion.

Responses Concerning Professional Qualifications

Most of the respondents indicated that the most common first professional entry level degree in Europe and in Asia is the LIS Bachelor's degree. In the US and other countries, (as for example UK, Poland, Turkey) the LIS Master's degree is the entry level degree for a pro-

fessional position. A Bachelor's degree (not in LIS) is required by some countries, such as Portugal, Bulgaria, Italy and Japan,

For civil servants, additional requirements are: certification of individuals (Estonia, Belgium); professional exam (Spain, Croatia); and generic exam (Italy). For career advancement in Public Administration, there are special requirements, such as professional retraining in a 2 year curricula (Russia), or Master's degree completion (France).

Responses Concerning the Role of Professional Associations

Who is leading the quality assurance process? In the US and some other countries (UK, Australia) the library association is leading the accreditation process of LIS courses. In Europe, library associations, except the UK, are not involved in quality assurance of LIS programs.

The role of library associations could be especially important for the recognition of professionalism, and also for facilitating equivalency of qualifications at the international level.

Most of the participants in the IFLA survey in Europe (73%), US (50%), and Asia (50%) suggest IFLA assume an active role in stimulating associations in their country for this issue. They felt that a Quality Assessment model should be developed by IFLA, to achieve transparency and facilitate recognition.

Respondents from Asia and Europe would like IFLA to encourage member associations and institutions to establish systems of accreditation and/or certification in their county or region based on a recognized Quality Assurance model (73%) For some of the respondents in Europe (20%) and in Asia (50%), it was felt that IFLA should have a more active role encouraging the national recognition of qualifications.

Accreditation and Recognition Procedure

How can IFLA or an international library organization realize the task of accreditation? Three models have been indicated:

- International resource centre on relevant information about LIS education
- International experts committee for the assessment of LIS education on an advisory basis
- Learning outcomes to be met by all LIS professionals who wish to have their training recognized internationally

The replies indicate that many of the respondents would prefer the third approach: a quality model focused on learning outcomes (53% in Europe, 50% in US and 50% in Asia). In order of preference, the other approaches are: an international resource center (50% in Europe, Asia and US) or the international experts committee (respectively 50% in Asia and 40% in Europe, none in US).

The respondents were asked also to give their opinion on two different approaches to learning outcomes:

- A benchmarking system established by sharing best experiences of LIS schools creating benchmarks to assess quality through a peer review process
- A linking of Quality Assurance of LIS education to the assessment of LIS programs by professionals who successfully completed the courses at each school. (Tammaro, 2005, p. 19)

Benchmarking was preferred by 60% of respondents in Europe, 100% in Asia and 50% in the US. The Quality Assurance approach was preferred by 50% in Asia and the US and 53% of the respondents in Europe.

AN ALTERNATIVE APPROACH IN THE WEB 2.0 ENVIRONMENT

All the suggested options over the past 30 years have met barriers in terms of successful implementation of an international program for assessing qualifications relating the equivalency of LIS education and training programs that would provide reciprocity of degree holders in obtaining professional positions in the ever more global employment world. One application of the Web 2.0 environment would be to construct a website that would enable organizations that employ graduates of specific LIS programs as well as the graduates of those programs to evaluate the satisfaction with the quality of the output (the educational program). It might be modeled after Angie's List, the online services assessment Web 2.0 based site (https://www.angieslist.com/AngiesList/Login.aspx).

The assessment list, which might be labeled "LIS Education Assessment" or LIS-AE, might be maintained by IFLA volunteers or by volunteers that are coordinated by IFLA. The postings would be vetted by the volunteers, giving the evaluated programs an opportunity to respond with comments to the postings. All comments and responses would be anonymous and specific comments that an the evaluated program objected to would not be listed, but an evaluation score provided by the person making the assessment would be posted as well as a listing of the number of comments the evaluated organization or program had requested for non-posting. Thus the list would provide an indication of the overall assessment score by all who chose to make an assessment and a measure of the number of comments that the assessed program found not acceptable.

This approach might seem fraught with difficulties in 2008 as many of us, especially representatives of LIS education programs, may not be as comfortable with the transparency and openness that is the foundation of much of Web 2.0 communication culture. Certainly the oversight of the Website volunteers to assure the validity and reliability of the postings is an essential component of the potential success of such an effort. It is presented here for discussion and further exploration.

CONCLUSION

The survey on Quality Assurance models, completed in 2005, presented evidence that a learning outcomes orientation could be helpful for improving quality in LIS schools. The findings of the project have indicated that learning outcomes of graduates of academic programs are considered a critical indicator of how effectively LIS schools are defining and instilling the skills and attributes needed by their graduates, with success in the labor market being the most obvious indicator of good outcomes.

The validation of learning outcomes is a challenge considering the variety of criteria and cultures that exist in LIS education internationally. The principle question asked of the student or graduate will no longer be "what did you do to obtain your degree?" but rather "what can you do now that you have obtained your degree?" The identification of appropriate learning outcomes and competencies would also facilitate the ability of employers and academic institutions to establish international reciprocity and equivalency of qualification guidelines in the global world of library and information professionals. While the Web 2.0 proposed solution of establishing a participatory website that permits employers and graduates of programs to assess the resulting quality indicated by the employer's and the graduate's assessments of what they can do now that they have received their education, may seem nearly im-

possible to implement today; in a very short time the Web 2.0 generation will begin assuming responsible roles in institutions and organizations that employ the graduates of these LIS education programs. When both the graduates and the employers represent a generation that are accustomed to online social networking and the transparency that it can provide, we may see much less resistance to this approach of assessing the quality of professional LIS educational programs. When the time is right for this Web 2.0 application, it is crucial that LIS education is ready and able to provide the structure to enable the application of an assessment procedure that may finally overcome the barriers that have plagued efforts to establish measures of equivalency and reciprocity for so many years.

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Cataloging in Bulgaria: Tradition and Challenge

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Каталогизацията в България – традиция и предизвикателства

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ABSTRACT

The paper deals with the main accents in cataloging in Bulgaria in the light of the requirements of new information and communication technologies. The author traces the process of the creation of the basic normative documents and the building up of an organizational structure for their application. Attention is drawn to the specifics of traditional cataloguing in Bulgaria and the need of further adaptation to the conditions of globalization of information theory and practice. Concrete steps towards the adoption of international standards are suggested.

Keywords: *Cataloging; Bulgaria; Information and communication technology; Standards*

РЕЗЮМЕ

Докладът е посветен на основните моменти в развитието на каталогизацията в България в светлината на изискванията на новите информационни и комуникационни технологии. Проследява се процесът на създаването на основните нормативни документи и изграждането на организационна структура за тяхното прилагане. Обръща се внимание на особеностите на традиционната каталогизация в България и необходимостта от продължаване на адаптирането към условията на глобализация на информационната теория и практика. Предложени са конкретни стъпки към възприемането на международни стандарти.

Ключови думи: *каталогизация; информационни и комуникационни технологии; стандарти*

В съвременните библиотечно-библиографски знания и практика каталогизацията е една от най-динамично и ефективно развиващите се области. Това не е случайно, тъй като развитието на комуникационните и информационните технологии доведе до качествена промяна във възможностите за обмен и разпространяване на библиографска информация. През втората половина на миналото и началото на настоящото столетие станахме свидетели на непрекъснати усилия за усъвършенстване на технологията и организацията на тази дейност, предизвикани от необходимостта една многолетна

традиционна практика да отговори на нуждите на новото време. Забележително е как професионалната общност успя целенасочено да координира действията си в международен план и да постигне завидно ниво на унификация на нормативната основа на създаването и извличането на библиографска информация. Това беше извършено постепенно с отчитане на необходимостта да бъдат избегнати сериозните сътресения от промяна на разнопосочните национални традиции и практики, залегнали в основата на огромните информационни масиви и наследени от един доста дълъг период на относително бавно развитие на международно сътрудничество. Необходимо е да се подчертае, че успешното развитие на този процес до голяма степен се дължи на две основни причини. На първо място нуждата от унификация беше осъзната още в самото начало на развитието и масовото разпространение на новите информационни и комуникационни технологии и вниманието беше насочено към използване на техните основни характеристики за усъвършенстване на каталогизацията. На второ място към процеса на унификация се пристъпи от позицията на приемане на общи теоретични принципи, които вече бяха разработени в професионалната литература[1] и изпробвани в практиката. Чрез демократична процедура на обсъждане, при широко участие на заинтересувани специалисти и представители на институции и организации от библиотечно-информационната сфера, през 1961 година те бяха приети като документ на Международната федерация на библиотечните асоциации (ИФЛА)[2] Този акт сложи началото на последователност от стъпки в посока на международно унифициране на практиката на каталогизацията, които си заслужава да се споменат накратко. Няколко години по-късно, през 1969 година, на организираната от ИФЛА Международна среща на експерти по каталогизация се прие решение да се започне работа по създаване на Международно стандартно библиографско описание[3]. Това решение сложи началото на повече от три десетилетия непрекъсната дейност на Секцията по каталогизация на ИФЛА и се превърна в едно от най-успешните начинания в историята на каталогизацията. Въвеждането му в практиката позволи идентифициращата информация за материалите да се представи чрез точно определени основни елементи, обединени в области с фиксирана последователност, разграничени една от друга с формални разделителни символи. Библиографските описания, съобразени с тези стандарти, станаха разбираеми и независими от езика или азбуката, използвани в тях. Многобройните разновидности на ISBD, отнасящи се до различни видове библиотечни материали, бяха преведени на повече от 20 езика и използвани директно в каталожната практика или станаха основа на национални стандарти за библиографско описание[4]. Развитието на системата от международни стандарти включваше и тяхното непрекъснато редактиране, актуализиране и усъвършенстване. Този процес, ръководен от Редакционната комисия за ISBD към Секцията по каталогизация, обедини усилията на специалисти от много страни и се развиваше на фона на все по-широкото използване на нови информационни и комуникационни технологии в библиотечно-библиографските процеси. Солидната структурна основа и принципното изграждане на стандартите позволи те да се превърнат в свързващо звено между традиционната каталогизация и каталогизацията в електронна среда. В условията на неравномерните възможности за приложение на новите технологии в отделните страни стандартите ISBD предоставиха възможност на по-изостаналите в технологично отношение страни да създават библиографска информация, съпоставима с информацията, получена с приложението на компютърни технологии. Развитието на форматите за машинночетими библиографски записи, необходими за компютърната обработка на данните, стъпи на установените стандарти и това откри пътя към качествена промяна на обмена на библиографска информация в условията на интегрирани библиотечни системи и компютърни мрежи.

Процесът на унификация на стандартите за библиографско описание се извършваше паралелно с необходимостта международното сътрудничество в областта на каталогизацията да се развива и в други направления, обусловени от новите технологии.

Практически неограничените технологични условия за осъществяване на споделена каталогизация на национално и наднационално равнище се сблъскаха с някои национални особености, залегнали в правилата за библиографско описание, които по традиция отделните страни разработваха самостоятелно. Процесът на преработване на тези правила, който отрази желанието за синхронизирането им с действащите стандарти, не се отличава със същата степен на унификация. Различната скорост на прилагане на автоматизацията на библиотечно-библиографските дейности допринесе за неизбежните различия и в новите инструменти, присъщи на автоматизираните системи. Невъзможна се оказа пълната унификация на форматите за машинночетими библиографски записи, отразяващи не само стандартната структура на областите и елементите на библиографското описание, но и локалната каталогизационна практика. Организацията на данните в библиографските бази данни и електронните библиотечни каталози наложи прилагането на специфични инструменти за контрол на формите на имената на лица, наименованията на колективни органи и предметни рубрики. Зависимостта на този нормативен контрол от националните езици беше поредното затруднение пред процеса на унификация. Анализът и разкриването на съдържанието на материалите при каталогизацията им, въпреки широкото използване на международно утвърдени класификационни системи и списъци от предметни рубрики, е далеч от постиженията в областта на стандартизацията на библиографското описание.

Водещите специалисти каталогизатори, организирани от Секцията по каталогизация при ИФЛА, за няколко десетилетия посветиха усилията си за преодоляването на тези затруднения. Подробното описание на тези начинания, всяко от които е определена стъпка напред към унификацията на каталогизационната практика в глобален мащаб, не е задача на това изложение. Важно е обаче да се изтъкнат постиженията, които оформят контекста на съвременното състояние в тази област на библиотечно-информационната наука, за да се установи степента на развитие на теорията и практиката на каталогизацията в нашата страна и да се набележат незавършените, а понякога и незапочнати, национални задачи пред каталогизаторите в България.

1. ФУНКЦИОНАЛНИ ИЗИСКВАНИЯ КЪМ БИБЛИОГРАФСКИТЕ ЗАПИСИ

Опит за преодоляване на различията във вижданията за библиографския запис и неговите функции беше направен с разработката на специализирано изследване, наречено „Функционални изисквания към библиографските записи"[5] и предназначено да оформи теоретична основа за съдържанието и структурата на записите, като отрази разнообразието на потребностите на ползвателите, новите форми на материалите и бързопроменящата се характеристика на електронния достъп. Развиването на изследването върху методиката на семантичен релационен модел на данни осигурява относително неутрален подход към задачата и в същото време го превръща в изходна точка за многобройни последващи разработки на правила за каталогизация, комуникационни формати и различни системи, осигуряващи създаването, управлението и ползването на библиографски и метаданни. Нещо повече, популярността на резултатите от изследването през последните години показва, че неговото въздействие значително надхвърля областта на библиографското описание, засягайки принципни въпроси на метаданните в дигитална среда. Възприемането на каталога като организирано множество от данни, описващи съдържанието на съхраняваните от една институция материали, даде основание да се приложи същият концептуален модел не само върху формалното описание на материалите, но и върху точките за достъп към това съдържание при изследването на инструментите за контрол върху формите на имената, наименованията на колективни органи и предметните рубрики.[6]

2. МЕЖДУНАРОДНИ ПРИНЦИПИ НА КАТАЛОГИЗАЦИЯТА

С цел да установи нови форми и пътища за разширяване на възможностите за споделяне на библиографска информация чрез развитие на стандартите за съдържанието на библиографските и контролните записи, Секцията по каталогизация при ИФЛА организира през периода 2003-2007 г. пет последователни международни конференции на експерти в областта на каталогизацията. Задачата на тези форуми е да бъдат преразгледани приетите преди повече от половин столетие „Парижки принципи" в светлината на новите технологии и да бъдат приспособени към цели, характерни за библиотечните каталози в режим онлайн и други информационни нужди. Новите принципи заместват „Парижките принципи" и разширяват техния обхват от текстови произведения към всички видове материали и от избор и форма на редна дума към всички аспекти на библиографските и контролните записи, които се използват в библиотечните каталози.[7] Те са изградени върху значителните световни традиции в областта на каталогизацията и върху концептуалните модели от документите на ИФЛА - „Функционални изисквания към библиографските записи" (FRBR) и „Функционални изисквания и номериране на контролните записи" (FRANAR), които разширяват обхвата на „Парижките принципи" върху анализа на съдържанието при каталогизацията. Надеждата на инициаторите на това международно усилие е, че обновените принципи в бъдеще ще изиграят същата съществена роля за развитието на каталогизацията, както предшестващите ги „Парижки принципи". Чрез тях се създават предпоставки за разработване на международни правила за описание, отсъствието на които досега затруднява обмена на библиографска информация. Особено важно е, че в условията на глобални информационни потоци тези принципи ще могат да се прилагат не само в библиотеките, но и в други институции, които организират информация, като архиви, музеи, служби за управление на авторски права, представители на софтуерната индустрия и общности, свързани с Интернет.

3. КОНСОЛИДИРАН МЕЖДУНАРОДЕН СТАНДАРТ ЗА БИБЛИОГРАФСКО ОПИСАНИЕ

Създаването на системата от международни стандарти за библиографско описание ISBD, нейното развитие и своевременно приспособяване към изискванията на съвременните технологии, се отчита като едно от най-значителните световни постижения в стандартизацията на библиографската информация. Широкото използване на стандартите в практиката, развитието на теорията на каталогизацията и необходимостта от изключване на различията между тях в условията на интегрирани електронни каталози и библиографски бази данни са основание през последните десетилетия Редакционната комисия за ISBD към Секцията по каталогизация да извърши огромна работа по своевременния преглед и синхронизирането на отделните издания. Напоследък беше отчетено, че все по-голяма част от активните каталози вече са електронни. Едновременно с това в модела за функционални изисквания към библиографските записи бяха определени задължителните елементи на описанието за основното ниво на националния библиографски запис. Редакционната комисия за ISBD взе решение за обединяването на отделните стандарти в единен Консолидиран международен стандарт за библиографско описание, обединяващ указанията за описание на всички видове материали и отразяващ съвременното състояние на каталогизацията. През 2007 година консолидираният стандарт беше публикуван[8] като издание със заменящи се страници, което позволява оперативно въвеждане на поправки и допълнения в бъдеще.

На основата на това схематично изложение на основните моменти в развитието на каталогизацията в световен мащаб можем да обърнем поглед към състоянието на каталогизацията в България. Без да се спираме подробно на отделните етапи на разви-

тието на каталогизацията в нашата страна, трябва да подчертаем, че стремежът на българските специалисти в тази област на библиотечно-библиографските дейности винаги е бил да се съобразяват с постиженията на библиотеките в чужбина, а в последните десетилетия - да не се отклоняват от тенденцията на унифициране на каталожната практика в световен мащаб. Особено значение за качествата на българската каталогизация има обстоятелството, че съществуването на централизирана библиотечна система е подпомагало във висока степен процесите на унификация в национален мащаб. В условията на ограничени възможности за участие в международните професионални организации и недостатъчен капацитет за теоретични разработки, основната насока в работата на специалистите е била да се запознават своевременно с колективните решения и да ги прилагат в максимална степен при разработването на българските нормативни документи. Участието на наши експерти на значими международни форуми, макар и ограничено, винаги е давало тласък на обновяването на практиката в страната.[9] Действащите национални стандарти за библиографско описание са разработени още през 80-те години на миналия век и са съобразени с първите издания на ISBD[10]. На тази основа стъпва и „Ръководство за азбучни каталози на книги"[11], което се използва и до днес. Обективната оценка на тези основни нормативни документи от гледна точка на международната унификация на каталогизационната практика, която бе извършена в процеса на подготовката на Първата международна конференцията на експертите по каталогизация през 2003 г., показва тяхната висока степен на съпостави-мост с практиката на останалите европейски страни.[12] Анализът и представянето на съдържанието на материалите в библиографските записи са извършвани на основата на две класификационни схеми, като през 90-те години бяха предприети стъпки в посока на унифицирането на практиката и приемане на единна схема за библиотеките в страната и частични корекции на българското издание на „Универсалната десетична класификация".[13] Като постижения в областта на каталогизацията могат да се отбележат и създаването и поддържането на предметен каталог в Националната библиотека на основата на контролиран списък от предметни рубрики и използването на предметиза-ция в текущата национална библиография[14]. Макар и ограничена, практиката в областта на предметизацията представлява основа за нейното бъдещо теоретично осмисляне и прилагане в условията на автоматизирана обработка.

Автоматизацията на библиотечните процеси и прилагането на новите информа-ционни и комуникационни технологии в каталогизационната практика, които предиз-викаха съществени промени и обусловиха нейното усъвършенстване, започнаха в България със значително закъснение. Тяхното внедряване съвпадна с коренните общест-вено-икономически промени, настъпили през 90-те години на миналия век. Въвеж-дането на пазарни икономически отношения, преходът към нови форми на финансиране на библиотеките, разпадането на централизираната библиотечна система и други съпътстващи процеси затрудняваха значително техническите нововъведения. Автомати-зацията на библиотечно-библиографските дейности в отделните библиотеки се разви до голяма степен стихийно, въпреки първоначалните неуспешни усилия този процес да се подчини на обща национална организационна и нормативна основа.[15] Финансовото състояние на библиотеките изключваше възможността в началния етап от автомати-зацията да се инвестират средства в лицензиране на готови софтуерни продукти за интегрирани библиотечни системи. С желанието да запази постиженията на централ-ната каталогизация, организирана дотогава с традиционни средства, и да подпомогне изграждането на електронни каталози в други библиотеки, Националната библиотека взе принципно решение да съсредоточи усилията върху изграждането на библиографски бази данни за българската издателска продукция на основата на организацията на текущата национална библиография. След натрупването на определен опит се премина и към ретроконверсия в машинночетима форма на библиографските данни за българ-ските книги на основата на съществуващи библиографски източници[16]. Преимущес-

твото на този подход беше, че при ограничените технологични възможности бяха решени на един начален етап едновременно две задачи – автоматизиране на изданията на националната библиография и създаване на библиографски бази данни, които послужиха за основа на изграждане на електронни каталози. Трябва да се отбележи, че от гледна точка на общоприетите професионални изисквания на съвременната катало-гизация в електронна среда, това начинание имаше редица недостатъци, които проли-чаха в по-късните етапи на неговото развитие. На първо място изграждането на отделни библиографски бази данни за различните библиотечни материали не създаваше възмож-ност за изграждане на общ каталог в библиотеките. Разработените софтуерни прило-жения не ограничаваха нормативния контрол на формите на имената на лица, наимено-ванията на колективни органи и предметните рубрики в национален мащаб и тази практика остана изолирана в Националната библиотека. Форматите за машинночетими библиографски записи бяха разработени на основата на действащите национални стандарти за библиографско описание и международния стандарт за обмен на библио-графска информация ISO 2709, без прилагане на утвърдените в световната практика формати за машинночетими библиографски записи MARC. Това обстоятелство беше пречка пред представянето на издателската продукция на страната в международния обмен на библиографска информация чрез включване в големи интернационални проекти за споделена каталогизация.

През последните години няколко от по-големите научни библиотеки получиха възможността да преминат на по-висок етап на автоматизиране на дейностите си с при-лагане на професионално утвърдени софтуерни продукти за интегрирани библиотечни системи. Този процес, който безспорно е стъпка напред за библиотечната система, по обективни причини не се отличава със стремеж към синхронизиране на усилията между библиотеките. Макар и да не подлежи на съмнение, че основната характеристика на каталогизацията в условията на компютърни мрежи с използване на съвременни инфор-мационни и комуникационни технологии е максималната унификация на нормативните и инструктивните материали, почти не се прави необходимото за обединяване на усилията по тяхното осъвременяване. Наченките на българска школа в областта на каталогизацията, които се наблюдават през 70-те и 80-те години на миналото столетие, днес не получават нужната степен на развитие. Може да се предположи, че причина за това е разпадането на централизирания модел на управление на библиотечната система, който предполагаше концентрация на усилията за разработване на необходимите нормативни материали в рамките на големите научни библиотеки и осигуряваше необходимите организационни условия. Постоянните финансови ограничения и прину-дителното съкращаване на персонала вече не позволяват на библиотеките да отделят нужния професионален и времеви ресурс за развойна дейност. Плахите наченки на сътрудничество в рамките на Българската библиотечно-информационна асоциация засега не дават резултат. Относително ограничените възможности за професионално израстване водят до загуба на престиж за дейностите по каталогизация и отблъскват младите специалисти. Трябва да признаем, че в бъдеще, независимо от финансовите средства и технологичните условия, които библиотеките в страната ще успеят да осигурят за своето развитие, качеството на създавания от тях информационен продукт няма да бъде на необходимото равнище, ако своевременно не се положат целенасочени усилия за развитие на съвременна нормативна основа на процеса на каталогизация. Без претенции за изчерпателност ще се опитаме да посочим някои от нормативните документи, върху които трябва да стъпи националната библиотечна система, за да може да представи адекватно библиографска информация за културните и научните постижения на страната, постигайки необходимата интеграция в условията на глобалното информационно общество:

В областта на библиографското описание:

1. Превод, издаване и разпространение на *Международния консолидиран стандарт за библиографско описание – ISBD,* и неговото пряко приложение при каталогизацията.

2. Разработване на нови *Правила за библиографско описание*, обхващащи всички видове библиотечни материали, съобразени със съвременните изисквания и отразяващи традицията на каталогизацията у нас.

3. Съобразяване на прилаганите софтуерни разработки с *международно утвърдени формати за машинночетими библиографски и контролни записи.*

4. Разработване на правила и организационен механизъм за *нормативен контрол на българските имена на лица и наименования на колективни органи.*

В областта на анализа на съдържанието:

1. Разработване, издаване и прилагане на *Средно стандартно издание на УДК* на български език с организационен механизъм за своевременно въвеждане на периодичните допълнения.

2. Разработване на методика и организация за изграждане на *универсален списък от предметни рубрики* и механизъм за поддържането му на споделено ниво.

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Dynamic Transformation of the Computerized Library Catalog into On-line Information Platform for Federated Search

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Динамична трансформация на електронния библиотечен каталог в онлайн платформа за федеративно информационно търсене

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ABSTRACT

The paper provides an overview of the influence of the Internet, especially Web 2.0, on the dynamic transformation of the computerized library catalog into an online information platform for federated search. In short are defined the key characteristics of the Web 2.0 and the new principles of the computerized cataloging / indexing. Two online information platforms (Scitopia.org and WorldCat) that model federated search are presented. The information functionality of both online platforms is described, as well as its significance for integrated data-, information- and knowledge management in a globalised environment of Web 2.0.

Keywords: Web 2.0; Cataloging; Federated search

РЕЗЮМЕ

Докладът прави преглед на влиянието, което развитието на Интернет, респективно на Web 2.0, оказва върху динамичната трансформация на електронния библиотечен каталог в онлайн платформа за федеративно информационно търсене. Накратко са дефинирани ключовите характеристики на Web 2.0 и новите принципи за електронна каталогизация. Представени са две онлайн информационни платформи (Scitopia.org и WorldCat), които се сочат като образци за федеративно информационно търсене. Описана е информационната функционалност на двете платформи, както и значението й за интегрираното управление на данните, знанието и информацията в глобализираната среда на Web 2.0.

Ключови думи: електронен библиотечен каталог; онлайн информационна платформа; Web 2.0; федеративно информационно търсене; Scitopia; WorldCat.

ПРИНЦИПИ НА WEB 2.0 И НА ЕЛЕКТРОННАТА КАТАЛОГИЗАЦИЯ

Издателят от едноименната медийна империя в Калифорния Тим О. Райли е откривателят на понятието **WEB 2.0,** което въвежда като название на една конференция, посветена на динамичното развитие на Интернет. Тим О. Райли[1] обобщава ключовите принципи за характеризиране на приложенията, които могат да се причислят еднозначно към **WEB 2.0:**

1. Уеб като платформа - вместо на локален компютър;

2. Използване на колективната интелигентност - свързването в мрежата се усилва посредством „архитектурата на вземането на участие в нея“, т.е. всеки може да „преживява“ в уебсредата;

3. Съдържанията са по-важни от външния вид или външността - приложения със задействани или „оживени“ данни, информация и знания;

4. Настъпване на края на класическия жизнен цикъл на софтуера - проектите се намират постоянно в бета-версия;

5. Опростени модели на работа посредством разпределено, общо и единно ползване на съдържания и технически услуги;

6. Софтуерът надхвърля способностите на една-единствена цел на приложение;

7. Начертаната цел не е съсредоточена само върху авангарда на уебприложенията, но и върху широката маса от приложения.

В интервюто на Карстен Лем с Тим О. Райли пред вестник Stern.de[2] той споделя, че **WEB 2.0** е един неточен термин. За него по-доброто понятие е открито от *Microsoft,* и то е „**Live – Software**“ или „жив, жизнен, енергичен софтуер“. Този нов термин определя, от една страна, Интернет като социална мрежа с отвореност за нейните ползватели, а от друга - изисква от тях промяна в тяхното информационно поведение, т.е. засилена интерактивност и сътрудничество, енергично участие в мрежата. Тези промени рефлектират и върху предлаганите онлайн библиотечни и информационни продукти и услуги в тази уебсреда**.**

Онлайн средата изисква въвеждането на нови принципи[3] за електронна каталогизация, чиято главна цел е да служат **на** и **да** удовлетворяват потребностите на ползвателите. Новите принципи подменят „Парижките принципи“[4], като разпростират своето значение не само върху чисто текстови произведения, но и върху всякакъв вид материали, както и върху установяване формата на вписване (регистриране) по всички аспекти на библиографските записи и записите, формиращи контролните или нормативните индекси, които се използват в библиотечните каталози. Тези принципи са още във фаза на проект и обхващат:

1. Обсег на валидност;

2. Реално съществуващи обекти, свойства и отношения;

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[1] **Вж. O'Reilly**, Tim. What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. Available online // < http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html> Accessed February 17, 2008

[2] Вж. **Karsten**, Lemm. Interview mit Tim O'Reilly: Auch Google könnte verschwinden. Available online // <http://www.stern.de/computer-technik/computer/:Interview-Tim-O'Reilly-Auch-Google/612430.html> Accessed February 17, 2008

[3] **Вж**. **Statement** of International Cataloguing Principles. . Available online // **IFLA** Meeting of Experts on an International Cataloguing Code, 1 st, Frankfurt, Germany, 2003. Accessed February 17, 2008

[4] **Вж. International** Conference on Cataloguing Principles (Paris: 1961). Report. – London: IFLA, 1963, p. 91-96.

3. Задачи на каталога;

4. Библиографско описание;

5. Точки за достъп;

6. Контролни (нормативни) записи или записи с достоверни данни;

7. Основни функции за информационно търсене.

В доклада си Алън Данскин[5] дефинира новите цели и функции при процеса на каталогизиране в условията на динамично развитие на уебпространството. Той издига тезата, че операциите, свързани с процеса на каталогизиране, се разширяват в следния обсег: *всеобхватно описание на ресурса с цел разкриването му и отличаването му от останалите ресурси; установяване и контрол на точките за достъп до него; установяване и контрол на отношенията с другите ресурси; семантично разкриване на ресурса; определяне или задаване на предметни рубрики; определяне или задаване на класификационни номера.*

Хармонизирането на такъв вид продукти с принципите на каталогизация на ИФЛА и съчетаването им с „**Live – Software**" очертава пътя на развитие на една модерна библиотечна и информационна технология, като проправя динамично пътя за новите и отворени стратегии с основна цел трансформация на библиотечните и информационни системи в уеббазирани платформи.

ИНФОРМАЦИОННАТА ФУНКЦИОНАЛНОСТ НА ОНЛАЙН ПЛАТФОРМИТЕ SCITOPIA.ORG И WORLDCAT

Стартът на **Scitopia (http://www.scitopia.org)** е през юни 2007 г. на годишна конференция на Асоциацията на специализираните библиотеки (Special Libraries Association – http://www.sla.org). Словосъчетанието е комбинация от латинската дума *scientia* (знание) и гръцката *topos* (място) или *topia* (идеално място). Не само името на метатърсачката е богато на съдържание и идеи, но и оповестяването и предлагането на над 3 милиона рецензирани статии от специализирани списания, доклади от научни форуми, патентна информация (за над 50 милиона патенти, разпространявани по света) и правителствени документи, с хронологичен обхват над 150 години (от 1884 година насам) от областта на науката и техниката в уебпространството, е твърде обещаващо.

Според Карън Хоукинс (директор на „Publication and Information Marketing - IEEE") и други автори: „Scitopia не е просто машина за търсене на информация в Интернет, а интегрирана платформа за генериране в пълнота на висококачествени научни ресурси, която е фокусирана върху най-често цитираните източници, върху простотата на функциониране на информационно-търсещия процес, както и върху предотвратяването на информационния шум на Интернет"[6].

Информационната функционалност на **Scitopia** съчетава, от една страна, предимствата на уебмашините за просто и безплатно издирване на информация, а от друга страна - на специализираните бази от данни с подбрани, рецензирани и качествено индексирани релевантни документални източници, чиито формуляри за информационно търсене са твърде сложни и достъпът до тях е платен.

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[5] **Вж. Danskin**, Alan. Tomorrow never knows: the end of cataloguing. // **IFLA** Meeting, Seoul, 2006.
[6] Вж.: **Hawkins,** Karen(2007) What's New @ IEEE in Libraries Available online // <http://newsletters.ieee.org/> Accessed February 17, 2008

Офертата на **Scitopia** за потенциалните ползватели е сервиз за свободно федеративно вертикално информационно търсене за извличане на съдържание.

<div align="right">Таблица 1</div>

Информационната функционалност на **Scitopia**

Фаза	Кратко описание
1. Роля на потребителя	Потребителят провежда информационно търсене от **Scitopia.org Home.**
2. Логическа формулировка на информационното запитване	Употреба на формулярите за просто и разширено федеративно информационно търсене.
3. Интегрирано управление на ползването на информационните масиви.	Употреба на информационните ресурси на участващите партньори, патентните офиси и правителството.
4. Резултати от федеративното информационно търсене	Откритите информационни единици се показват ясно на екрана със заглавки в удебелен шрифт и ранжирани по избран от потребителя критерий (релевантност и дата).
5. Достъп до пълния текст	Потребителят има достъп до пълния текст, базиран на правата на абоната със съответния партньор. Реферираните документални записи са видими в рамките на **Scitopia.org.**
6. Достъп до дигиталната библиотека	Дигиталната библиотека на участниците предоставя достъп до пълния текст на документа, който е избран от индивидуалния партньор.

Резултатите от процеса на информационно търсене в **Scitopia** не са всякакви видове уебдокументи (каквито се откриват при ползване на търсачката **Google**), а публикации, които са библиографско регистрирани във водещи електронни каталози от отрасли на науката и техниката. Платформата предлага издирване на следните видове съдържание:

• Библиографско регистрираните документи във всяка партньорска електронна библиотека;

• Патенти от Патентното ведомство и офиса за търговски марки на САЩ; Европейското патентно ведомстно и Японското патентно ведомство;

• Документи на правителството на САЩ, представени на сайта на департамента „Energy Information Bridge".

Друг своеобразен модел, който отразява тези нови принципи на електронната каталогизация, както и на **WEB 2.0,** е въплътен в глобалния каталог **WorldCat.**

На крайните ползватели в Интернет пространството се предлага международният своден каталог с отворен достъп **WorldCat,** т.е. безплатно, с опростен потребител-

ски интерфейс. Изобилието на **WorldCat** се увеличава от пълния диапазон на различните библиотечни и информационни продукти и оферти, като се започне с каталогизирането, премине се през споделеното откриване и доставка на ресурси до интелигентното събиране и обработка на данните. Библиотеките - членки на глобалния каталог, посредством партнирането си и приложението на уебтехнологията правят видими и възможни за ползване в Интернет своите ресурси на всеки краен потребител.

Отличителните черти за функциониране на **WorldCat** са следните:

• Крайният ползвател има възможност да търси и открива информация „на широко" по мрежата в огромен брой библиотечни фондове и информационни масиви;

• Интернет потребителите, известни като уебпоколението - чрез глобалния каталог могат не просто да търсят информация, а да са интерактивни в уебпространството. Това означава, че с помощта на информационен инструментариум те могат да си съставят библиографски списъци, да сътрудничат при написването на рецензии или критични коментари, да разпространяват информация за библиотечните материали и информационните обекти по всеобщата социална мрежа;

• Прилагането на обединено или федеративно информационно търсене намалява необходимостта от изучаване на различни видове справочен интерфейс за различните онлайн каталози на библиотеките;

• Бързината при добива на информация и обхватът на нейното съдържание спомагат за оценяване на нейната релевантност;

• Откритите заглавия на библиотечните материали и информационните обекти се показват на екрана във формати, съставени от много елементи, така че информационният търсач да не „преброжда" различни документални записи за версии на дадено популярно заглавие - например за даден филм, аудио-книга или превод на същото произведение. Отделните медии (материални носители) на източника или произведението са показани в един-единствен документален запис.

ИЗВОДИ

Новата генерация на федеративни (обединени на федеративни начала) машини за търсене, с които разполага 21 век, са проектирани да търсят в локални и отдалечени библиотечни каталози, в рефератни бази от данни, в индекси, в пълнотекстови, генерирани бази от данни от агрегатори, в дигитални хранилища при употреба на стандартизирани протоколи и при прилагане на методиката на федеративното информационно търсене. В ODLIS[7] е дефиниран терминът *федеративно информационно търсене*. **Федеративното информационно търсене** (обединено информационно търсене на федеративни начала) - търсене на информация, като се употребява софтуер, който е проектиран за информационно запитване, отправено към съставени от много елементи и работещи в мрежа информационни ресурси чрез един-единствен интерфейс.

Създатели на платформата **Scitopia** за федеративно информационно търсене (обединено информационно търсене на федеративни начала) са петнадесет водещи научни и технически дружества, чиято основна цел е да обединят ерудицията и знанията на сътрудниците си за изграждане на:

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[7] **Reitz**, Joan M. ODLIS – Online Dictionary for Library and Information Science. Available online // http://lu.com/odlis/. Accessed February 17, 2008

• Всеобхватен, независим „вертикален" портал към дигиталните библиотеки на участващите дружества;

• Отворена за широката публика информационна платформа, но проектирана за изследователи;

• Достъп до пълния текст на документите, посредством издателите на дигиталните продукти, без да е необходимо закупуване на нов абонамент;

• Фокусиране върху сферата на техниката, като се включва инженерство, физика, математика и компютърна наука.

Интегрираните функции за откриване на библиографска информация във **WorldCat** се определят от следните фактори:

• Обща инфраструктура за търсене и извличане на информация от ресурсите на библиотеките партньори посредством уебплатформа;

• Единен потребителски интерфейс (два формуляра за търсене);

• Единни полета за интерактивност на ползвателя;

• Обединено информационно търсене на федеративни начала или федеративно информационно търсене в интегрирания, всеобхватен масив на уебкаталога;

• Единно нареждане на резултатите от информационното търсене, т.е. ранжиране по отделни полета на документалния запис;

• В международния своден уебкаталог е претворена дългата история на технологичния прогрес на библиотеките партньори, който се изразява чрез прилагане на качествени стандарти и рационална организация на електронната обработка и осигуряване на бърз достъп до информацията.

Интернет на 21 век радикално и динамично трансформира информационната инфраструктура, както и интерактивността с науката и техниката в уебсреда. В близкото бъдеще, както показват двете информационни платформи **Scitopia.org.** и **WorldCat,** онлайн информацията доминира, като управлението на информационните системи е изградено на интегриран принцип, а информационното търсене е федеративно, т.е. кръстосано в множество от разнородни по състав масиви, обединени от общ потребителски интерфейс.

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Database "Journal "Bulgarski Knizici" (1858 - 1862)

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База данни списание „Български книжици" (1858-1862)": (модел за приложение на информационните технологии в хуманитаристиката)

Таня Тодорова

Съюз на библиотечните и информационни работници
България

ABSTRACT

The renaissance journal "Bulgarski Knizici," published in the period 1858-1862, is an important literary phenomenon in the Bulgarian cultural history. The journal has a special meaning for the investigations in the area of the history of Bulgarian science – of the Bulgarian linguistics theory and theory of literature, bibliography, history of the Bulgarian church and clergy, pedagogy, folklore, etc. Its rich content provoked the creation of the digital database (on CD-ROM) "Journal "Bulgarski Knizici" (1858-1862). Several methods were applied: creation of content model of database; de visu review and bibliographical description of the investigated material; digitization of information from bibliographical sources and of separated materials from the journal; systematization of the information; selection of suitable software programs (software product Dwebpro (www.dwebpro.com), system for management of databases "MySQL," program language "PHP"); creation of program product; electronic cultivation of information; graphic design of the database; testing of the reached results. The digital database "Journal "Bulgarski Knizici" (1858-1862) (CD) is a new decision for the implementation of the new technologies in humanity. For first time is ensured electronic access to analytical content of Bulgarian renaissance publication with possibilities for different ways of searching (author, title, category, thematic rubrics and sub-rubrics) and for achieve-ment to systematizing results which allow analysis and comparison in support of scientific goals. In the future the database will be present online, will be complete with new data, will be opened for scientific communication and will be applied in similar scientific problems.

Keywords: Digitization; Indexing; Database creation

РЕЗЮМЕ

Възрожденското списание „Български книжици", издавано в периода 1858-1862 г., е важно книжовно явление в българската културна история. Неговото богато съдържание провокира създаването на дигитална база данни „Списание „Български книжици" (1858-1862)" (CD). Това е ново решение, което демонстрира използване на новите информационни технологии в хуманитаристиката. За пръв път се осигурява електронен достъп до аналитично разработено съдържание на българско възрожденско периодично издание с възможности за различни информационни търсения (по автор,

заглавие, категории, тематични рубрики и подрубрики) и за достигане до система-тизирани резултати, които позволяват анализ и съпоставки в подкрепа на научни цели. Дигитализирани са и няколко материала като илюстрация на възможностите за пълно-текстово разкриване на периодичното издание. За в бъдеще базата данни ще се пред-стави on-line, ще се допълва с нови данни, ще се отвори за научна комуникация и ще се прилага при сходни научни задачи.

Ключови думи: *база данни; дигитализация; българска възрожденска периодика; история на културата; хуманитаристика*

ВЪВЕДЕНИЕ

Сп. „Български книжици" (1858-1862) - важно книжовно явление в българската културна история

През 60-те години на XIX век, благоприятствани от реформените админи-стративни инициативи на османската власт и под влияние на съседни народи и далечни страни, българите поемат своя път към Новото време. Възрожденската публицистика се явява своеобразна летопис и основен източник на многобройни факти за културната ни история. Сп. „Български книжици" (1858-1862) е издание, което не само определя информационния фон, върху който протичат съответните обществените процеси, но и повлиява върху начините, по които се реконструират параметрите на възрожденското ни общество. Излизало в периода 1858-1862 г., то се налага като основен печатен орган за осъществяване на главните задачи на културната и духовната платформа на Българското възраждане: изграждането на единен книжовен език, просветното и културното обновление и извоюването на независима българска църква и духовенство.

Сп. „Български книжици" е издание на първата българска културно-просветна организация - основаната през 1856 г. в Цариград Община на българската книжнина. Тази институционална установеност е най-важната предпоставка както за неговото солидно изграждане, така и за възможността то да е първото възрожденско списание с най-дълъг живот от почти пет години. Устойчивостта се постига и благодарение на колективните усилия на редактори, настоятели, сътрудници, издатели и печатари.

Въпреки че възрожденският периодичен печат няма особено трайни традиции и специално подготвени журналисти, сп. „Български книжици" успява да постигне високо равнище и успех, тъй като за негови ръководители и сътрудници са привлечени едни от най-подготвените български книжовници. В списанието се изявяват предимно предста-вители на цариградската българска интелигенция, но материали се изпращат и от България, и от чужбина. Изданието се превръща в обединителен център за елита на възрожденската ни интелигенция и се отличава с присъствието на редица публикации с научно съдържание. В него историческата и езиковедската проблематика се разглеждат на базата на множество факти, документи и задълбочени изследвания. Тематичният анализ на съдържанието показва, че с богатството на проблематиката си сп. „Български книжици" далеч надминава както предходните възрожденски издания, така и първо-начално обявените от Общината на българската книжнина програма и цели. Заедно със сериозните и с научен характер публикации, то успява да следи и да отразява и общонационалните стремежи и дебати, има общонационална насоченост и звучене. Този баланс се постига чрез оригиналната структура и композиция на сп. „Български книжици" – основно тяло, отдел „Съвременна летопис" и приложение с художествени творби. Собственият стил на изданието е заслуга предимно на неговите редактори Д. Мутев, И. Богоров, Г. Кръстевич, Т. Бурмов и С. Филаретов. С новите моменти, достигнати в композиционно-структурен план по отношение на редакторска политика,

на разнообразие, актуалност и задълбоченост на проблематиката, на популярност и разпространение, на привличане на над 70 сътрудници (впечатляващ брой за времето си), сп. „Български книжици“ се откроява като успешно начинание на възрожденската ни журналистика и е едно от изданията, определили облика на предосвобожденския ни културен фон.

ИЗЛОЖЕНИЕ

База данни „Списание „Български книжици“ (1858-1862)“ (CD) – методика, съдържание, софтуерно решение, функционалност

Възрожденското списание „Български книжици“, издавано в периода 1858-1862 г., е от важно значение за проучвания в областта на историята на българската наука - на българската лингвистична теория и литературознание, на библиографията, на историята на българската църква и духовенство, на педагогиката и андрагогиката, на фолклора и краезнанието и редица други. Неговото богато съдържание провокира създаването на **дигитална база данни „Списание „Български книжици“ (1858-1862)“ (CD), която включва следните подбази:** „Сътрудници на сп. „Български книжици“ (1858-1862)“; **„Съдържание на основното тяло на сп. „Български книжици“ (1858-1862)“**; „Съдържание на отдела „Съвременна летопис“ и на други приложения в сп. „Български книжици“ (1858-1862)“; **„Карта на разпространението на сп. „Български книжици“ (1858-1862)“** [Тодорова, Т. (2008)].

За осъществяването на приложния продукт бе разработена **собствена методика, включваща следните етапи на работа:**

1. Създаване на теоретичен и съдържателен модел на базата и подбазите;

2. Преглед "de vizu" и библиографско описание на проучвания материал;

3. Дигитализиране на информация от библиографски източници и на отделни материали от списанието;

4. Систематизация и структуриране на информацията;

5. Подбор на подходящи софтуерни програми (софтуерният продукт Dwebpro (www.dwebpro.com), система за управление на бази данни "MySQL", програмен език "PHP");

6. Създаване на програмен продукт;

7. Електронна обработка на информацията;

8. Графичен дизайн на базата данни;

9. Тестване на постигнатите резултати.

Подбазата данни „Сътрудници на сп. „Български книжици“ (1858-1862)“ следва и се опира на методиката, използвана в историко-социологическите проучвания на българската възрожденска интелигенция [Генчев, Н. и др. (1988), Генчев, Н. (1991), Радкова, Р. (1986), Иванова, Д. (1994)]. Подбрани са и са включени унифицирани данни за сътрудниците на сп. „Български книжици“ (година и място на раждане, произход, образование, занятие), които позволяват търсене, структуриране и извличане на информация по следните три основни категории със съответните подкатегории. **Първата група категории** установяват и изследват пола, образованието и потенциала на възрожденските интелигенти; **втората група категории** обхващат данните за социалния произход, семейната среда и материалното положение на възрожденските интелигенти и **третата група категории** представят възрожденските интелигенти според професионален признак и обществено поведение.

Идентифицирани са **70 сътрудници на изданието** (техният брой вероятно е по-голям, тъй като има редица анонимни материали) – досега в научната литература се приемаше, че са около 50 [Иванова, Д. (2000)]. Извлечението на представените имена е направено чрез преглед на списанието и при сравнение с данни от съответната справочна литература [Генчев, Н. и др. (1988), Гергова, А. (2004), Радев, И. и др. (1996) и други изследвания и материали].

Отличителното при разработването на **подбазите данни „Съдържание на основното тяло на сп. „Български книжици“ (1858-1862)“ и „Съдържание на отдела „Съвременна летопис“ и на други приложения в сп. „Български книжици“ (1858-1862)“** е, че съдържащите се в тях материали са тематично определени и класифицирани според Тематичен рубрикатор. Разработеният Тематичен рубрикатор се опира на специалната схема, по която са подредени статиите в Т. II на М. Стоянов „Българска възрожденска книжнина“ с прибавяне на нови или при обобщаване на някои предмети. В двете подбази, отразяващи съдържанието на сп. „Български книжици“, може да се осъществяват **информационни търсения по автор, заглавие, тематични рубрики**.

Примерно търсене по тематична рубрика в подбазата „Съдържание на отдела „Съвременна летопис“ и на други приложения в сп. „Български книжици“ (1858-1862)“:

И в двете бази за материалите в изданието, които се публикуват с продължение, с цел удобство при справки и четене – данните за продълженията в други книжки са представени компактно при описанието на книжката, в която започва да се отпечатва публикацията. В забележка в прави скоби се дава **допълнителна информация относно доказано авторство на анонимни материали, пропуски и неточности в справочната литература и различни други уточнения**.

Като илюстрация на възможностите за **пълнотекстово разкриване на периодичното издание са дигитализирани няколко материала от списанието** – уводът и по една статия от редакторите.
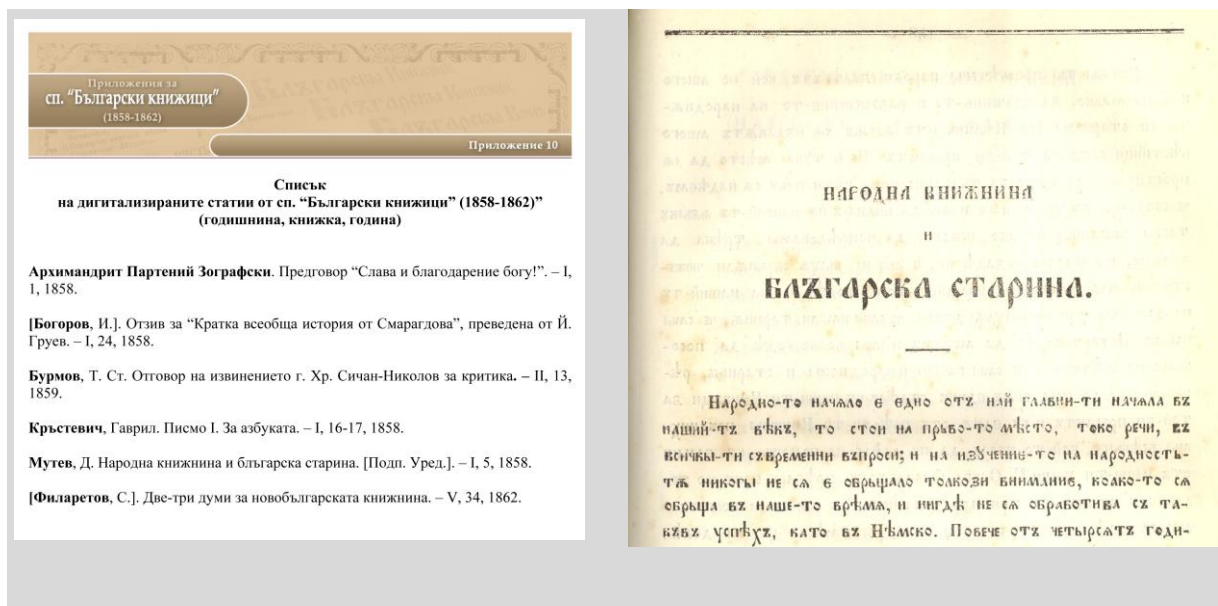
„Карта на разпространението на сп. „Български книжици“ (1858-1862)“ е изготвена на базата на обобщаването и анализирането на публикуваните списъци на спомоществователите и настоятелите на сп. „Български книжици“. Те дават възможност да се очертаят границите на разпространението и популярността на изданието и да се направят изводи за проникването на българската книга и печат сред българското население.

ЗАКЛЮЧЕНИЕ

Резултати и виждания за бъдещо развитие на базата данни „Списание „Български книжици“ (1858-1862)“ (CD)

1. Дигиталната база данни „Списание „Български книжици“ (1858-1862)“ (CD) е ново решение, което демонстрира използване на новите информационни технологии в хуманитаристиката. За пръв път се осигури електронен достъп до аналитично разработено съдържание на българско възрожденско периодично издание с възможности за различни информационни търсения за достигане до систематизирани резултати, които позволяват анализ и съпоставки в подкрепа на научни цели.

2. Задълбоченият преглед на материалите в сп. „Български книжици“ (излизало от Год. I, 1858 г. до Год. V., бр. 34 на 1862 г., с обем около 4520 страници) и тематичното им определяне - позволи тяхното съдържание в базата данни да се разкрие многоаспектно и детайлно. Акумулира се разнообразен материал в услуга на проучванията на историята на българската наука.

3. Достигна се и до допълнителна информация – собствени или на други автори уточнения относно: установяването на анонимно авторство или изясняването на спорно авторство (за 25 материала); пропуски, неточности и грешки в справочната литература (за 10 материала); бележки и коментари (към 15 материала) и други. Описани са над 60 материала от съдържанието на сп. „Български книжици“, необхванати в Т. II на „Българска възрожденска книжнина“ на М. Стоянов. Тези резултати осветляват неустановени факти от българската културна история.

4. Постави се началото на дигитализирането на това възрожденско издание с пълнотекстовото разкриване на няколко материала като илюстрация на възможностите за използването му под формата на електронен ресурс за в бъдеще.

Създадената база данни „Списание „Български книжици" (1858-1862)" (CD) е полезна при осъществяването на съпоставителни изследвания, свързани с развитието на българския периодичен печат, при проучването на дейността на възрожденските интелигенти и редица други. Практико-приложният характер на разработения модел е и в идеята той да се представи on-line, да се допълва с нови данни, да се отвори за научна комуникация и да се прилага при сходни научни задачи.

Разработката на базата данни за сп. „Български книжици" е перспективна и приложима в библиотечната практика и за целите на библиотечно-информационното образование с оглед съвременните задачи по опазването и осигуряването на електронен достъп до книжовното и документалното наследство. Това е актуален проблем у нас и по света, залегнал в основата на програмите Content, Digital Library и на започналия през 2007 г. европейски проект European Digital Library, целящ изграждането на единен портал с мултилингвистичен интерфейс за достъп до дигитални артефакти, електронни документи и мултимедия от общия европейски културен фонд.

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Teaching Information Management:
More than Technical Knowledge

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Преподаването на информационен мениджмънт:
Не само техническо знание

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ABSTRACT

About three years ago, university degrees and study programs in Germany were adapted to the European Bachelor degree and program system (the Bologna process). This among other things implied reflecting and revising all study programs, improving them while at the same time shortening the study time. The goal is to teach students in such a way that they are well equipped for a successful career in the area of information management or medical documentation. The requirement to "produce" more successful graduates in a shorter period of time triggered a reflecting on what knowledge and abilities (also those beyond technical knowledge), and what attitudes are required to be successful in the area of information management (in study and career). The introduction of qualifying examinations for applicants to Bachelor programs forced us to reflect about that. Meanwhile in information leaflets and WWW pages that present our new Bachelor study programs, these skills are emphasized as study requirements in order to address and attract the "right study candidates." At the FH Hannover, already our diploma programs had a long tradition of including the teaching of key skills like presentation skills as well as conveying student-evaluations of lecturers each semester. Both are meanwhile prescribed requirements for the new introduced bachelor programs. In Germany there exist quite a lot of ready-to-use standardized questionnaires and lists of the teaching skills, behaviors and abilities to evaluate a professional lecturer. But where to find a corresponding list of the learning skills, behaviors and abilities that are prerequisites to study and work successfully in the area of information management? This could help with choosing the right study candidates at application as well as teaching the appropriate soft skills and competencies in our study programs. This article presents a first proposal for such lists of student skills, competencies, psychological behaviors and abilities that are needed to be(come) a successful information manager.

Keywords: Information management; Competencies; Skills

РЕЗЮМЕ

Преди около три години университетските дипломи и учебните програми в Германия бяха адаптирани към европейската система за бакалавърска степен и учебна

програма (Болонски процес). Освен всичко друго, това наложи да се прегледат, преработят и усъвършенстват всички учебни програми и едновременно с това да се съкрати срока на обучение. Целта е студентите да се обучават така, че да бъдат добре подготвени за успешна кариера в областта на информационния мениджмънт или медицинската документация. Изискването за по-кратко време да „се произведат" по-успешни висшисти предизвика анализ на необходимите познания, умения (включително и не само техническите) и манталитет за успех в областта на информационния мениджмънт (както в процеса на обучение, така и при упражняване на професията). Към този размисъл ни подтикна въвеждането на изпити за качествен подбор на кандидатите за обучение в бакалавърската програма. Междувременно в рекламната листовка и уеб-страницата, която представя новата учебна програма за бакалаври тези качества са подчертани като учебни изисквания с цел да се насочим и да подберем „подходящи кандидати за обучение". Висшето техническо училище в Хановер има дълга традиция да включва в учебните си програми ключови умения като умението за представяне, както и всеки семестър да изисква от студентите оценка на преподавателите. Сега тези неща се препоръчват като изисквания към нововъведените бакалавърски програми. В Германия съществуват доста на брой стандартизирани и готови за ползване въпросници и списъци на преподавателски умения, начини на поведение и способности, с помощта на които може да се оцени един професионален лектор. Но къде да открием съответния списък от умения за учене, начини на поведение и способности, които са предварително условие за успешно обучение и работа в областта на информационния мениджмънт? Това би подпомогнало подбора на подходящи кандидати за обучение, както и преподаването на подходящи комуникационни умения и компетенции в нашата учебна програма. Този доклад представя първото предложение за такива списъци на студентски умения, компетентности, психологическо поведение и способности, които са необходими за бъдещите информационни мениджъри.

Ключови думи: *информационен мениджмънт; компетентности; умения*

INTRODUCTION

Since 1975 I have taught statistics and the use of statistical software packages. I have noticed over the years and decades in the study programs Information Management and Medical Documentation at the Fachhochschule Hannover (University of Applied Sciences and Arts), that it is becoming more and more difficult to teach mathematical topics. Not because students are getting balkier - no, just the opposite: they are getting more and more aligned. They are well-behaved, memorize all formulas for the exams, and try to do the predetermined homework, but they are taking less and less responsibility for their own learning process. They are attending classes regularly, most of them are reading the lecture notes, but most of them have never looked into any textbook of their own accord. Very few notice when there are publications (articles, TV shows etc.) related to their field of study.

This complex of problems is meanwhile mirrored in the German media. The cover story of the magazine *Stern* in May 2008 was titled: "Los, erzieht mich – Warum die Wohlfühlgesellschaft kleine Monster macht" (in English: *Come on! Educate me! - Why the 'feel at ease-society' is creating little monsters*). Reading the article the following sentences jumped out at me:

- das alles ist Folge der Erziehungs- und Schulsituation in Deutschland
  All that is consequence of the situation at school and in education in Germany

- Zu viel falsche Tolenranz
Too much misplaced tolerance

- Kinder wollen Regeln, die Eltern ihren Frieden
Children want rules, the parents just don't want to be bothered

- eine gewisse Strenge zeigt, dass die Eltern Interesse haben
A certain amount of strictness shows that parents care

When you replace the word "children" with "students" and "parents" with "lecturer" or "professor", this (at least occasionally) reflects also our teaching situation in Germany at universities. Or at least: we have to make sure that this is not the future at our universities!

- *Students want rules, lecturers/ professors just don't want to be bothered*
They see no other way to handle permanently increasing numbers/ groups of students in Germany (in order to make studying cheaper)
While at the same time: students learn at school less and less how to learn

- *Too much inappropriate tolerance*
A certain among of strictness shows that professors/ lecturers care
They take their duty seriously to educate professional, marketable, competent information specialists
Otherwise we should not be surprised when also our students more and more choose the easiest way to good grades

These statements can serve as working hypotheses as a base for discussion about this topic.

The "rules" we ought to teach are far more than (for example, in statistics) formulas to calculate a correct means or standard deviation! It is time to begin to change and adapt the traditional concept of teaching to the changing world. Besides professional competencies (like document analysis), operational competencies (like structuring of processes and problems) and self competence (like motivation) are increasingly gaining in importance (see Figure 1 for examples). The subjects taught are only a part of academic education. Soft skills and the disposition for self-reflection are equally important for students, but are neglected in many scientific study programs.

It is impossible to teach all the theory and methods that our students will need for their future information management work life and career. In two recent publications (based on alumni surveys in Germany) it was criticized that in spite of soft skill tutorials the students were not prepared enough for certain requirements of their working life like for example for negotiating skills and conflict management (Schmidt, 2008; Jäger and Peter-Olrogge, 2008). Due to the decreasing "half-life of knowledge," the principle of lifelong learning is getting more and more important. Students need rules and techniques for learning, for achieving personal responsibility whilst learning and working, when dealing with other people, colleagues, customers and supervisors. From my point of view it is our duty as university lecturers to establish this.

professional competencies/ knowledge/ expertise *deutsch: Fachkompetenz*	operational competencies *deutsch: Handlungskompetenzen*	Personality
like ° Computer Science ° Information Law ° Document Analysis ° Retrieval Techniques ° Statistics etc.	○ concentration ○ abstract & logical thinking/ structuring ○ learning- & reading- competence ○ being organized (time planning, self management) ○ capacity for teamwork ○ dealing with problems: being able to recognize problems (early enough) & to analyze the situation ○ project management	○ liable ○ (self-) motivated & self-confident ○ creativity & mental flexibility ○ persevering ○ decisive ○ showing intiative & goal oriented ○ self-reflection ○ willing to undertake experiments ○ creativity

Figure 1: Examples of Competencies

OPERATIONAL COMPETENCIES

Operational competencies stand for verifiable abilities that are necessary for the occupational activity and which are acquired by instruction. In difference to the theoretical standardized contents of professional competencies, operational competencies are individually associated with a person. Operational competencies stand on the one hand for specified work habits and methodical structures for accomplishing professional activity. On the other hand, operational competencies build on already existing daily living skills for social action (Rauner, 2004; for German definition see: http://www.sign-lang.uni-hamburg.de/projekte/slex/SeitenDVD/Konzepte/L51/L5190.htm).

Since the German school system followed the Dutch model to teach mathematics in an application-orientated method, the mathematics score of the German pupils improved in the Pisa studies. Instead of abstract mathematical theory, now practical applications of mathematics and mathematical solving of real life problems are emphasized (Vom Lehn, 2008). However now problems occur when these adolescents begin to study mathematical oriented or technical oriented subjects like engineering (and information management?). They are not able to transfer their mathematical solving ability.

Much the same thing might happen later when our alumni - being mainly trained to be application oriented - enter working life. In our study programs in Hannover for example, statistics is mainly taught as application oriented (avoiding the permeation of complex mathematical formulae for reasons mentioned above). However, abstract thinking is a necessary key qualification of information specialists: the joy at solving problems, at searching and discovering the intrinsic structure of a complex question or task, at breaking it down into smaller, resolvable chunks. For making a seemingly unmanageable problem manageable, perseverance is as indispensable as the patience to trace a solution. And above all: also the joy at watching the final solution unveil and grow. These are qualifications and qualities our alumni, our students, our freshmen need to learn and to achieve.

PERSONALITY COMPETENCIES

As discussed above operational competencies build on already existing daily living skills for social action. This implies that in order to teach and produce successful information managers, our students must have (as in every other profession) a particular kind of perso-

nality or of personality development. It is barely possible to solve the complex present-day problems and tasks as a single person. Therefore strong personalities are needed that nevertheless have a good capacity for teamwork. Empathy and the ability to listen are required, being social, networking abilities and the ability to seek (and find!) conflict resolution. That might be the reason why in Germany consultancies sometimes prefer to employ theologians and artists instead of economists. Nevertheless universities still focus on imparting pure knowledge.

It might be supportive for students (and lecturers!) to know which general attitudes are useful in order to study, work and live successfully. The list in Figure 2 was inspired by Assenza 2008).

Comparison of students, information managers, university lecturer		
Successfull ⇐ **versus** ⇒		**Not successful**
☞ **create their (study-)situation**		☞ (study-)situation 'happens to them'
☞ enjoy their study/ (working) world		☞ don't enjoy study/ (working) world
☞ aim to win / are active		☞ aim not to lose / are re-active
☞ If they have a problem, they try to do something about it		☞ If they have a problem, tend to be passive, indecisive or resigned
☞ If they cannot change something, accept it and let go		☞ have a problem with accepting and letting go
☞ primarily idealistic		☞ primarily realistic
☞ **confident & at peace with themselfs**		☞ low self-esteem
☞ not afraid of the future		☞ often afraid of the future
☞ **rarely bored**		☞ often bored
☞ rarely offended		☞ often offended
☞ think big & **focus on opportunities**		☞ think small & focus on obstacles
☞ think "both"		☞ think "either/or"
☞ watch, admire, model and associate with positive, successful students / information managers		☞ resent other successful students & (often pessimistic) associate with other not successful
☞ are bigger than their problems		☞ are smaller than their problems
☞ act in spite of fear		☞ let fear stop them
☞ **work focused on results** to get paid based on results		☞ work focused on working time
☞ **manage time, energy & resources well**		☞ mismanage time, energy, resources
☞ **constantly learn and grow**		☞ think they already know enough

Figure 2: Competencies of Success

CONCLUSION

In order to become a successful information manager (or: in order to successfully become an information manager) it is essential to learn (and teach!) certain operational competencies besides the required subjects taught. Operational competencies however build on already existing daily living skills for social action. Working in the area of information management requires a certain personality structure, particular aptitudes. This results in certain requirements and expectations of the "ideal student." This should be on the one hand communicated by means of flyers, homepage presentations and information events. On the other hand it should be demanded from (future) students in form of (admission) tests.

Our study programs have far too long revolved around a concept of impartation of knowledge. This offers little help in terms of how information managers perform in their role and how they can apply what has been learnt in new interrelations. There is no doubt that the "what" of information management is important. But how information managers ultimately apply their skills and knowledge is the foundation of their further development and ultimate success. In conjunction with the traditional didactic processes pursued today, an equally important process which encourages individuals to become aware of themselves and of how their personality affects their behavior. This awareness is central to the growth and realization of the information manager's self-potential. At the present time this process is not included in university education. A new approach would be concerned not only with the transmission of knowledge about information management but with seeking to help the future information managers understand their own personal learning and development processes in a way which increases their capacity and ability to take control and responsibility for learning and developing from personal experience.

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Well, Hello, Blogger! Library Education 2.0: Bye, Bye, Blackboard?

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Здравей блогър! Библиотечно образование 2.0: Сбогом на черната дъска?

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ABSTRACT

Web 2.0 is a communication revolution that can be considered much more democratic than that of Gutenberg or even Web 1.0, because it allows anyone with a minimum of technical knowledge to disseminate information, and, more importantly, anyone else to respond almost instantaneously and provide feedback on the message that they have received. Blogs are now read globally by 73% of internet users, according to a March 2008 survey by media communications company Universal McCann. The survey shows a clear trend toward customer participation in many areas. Social networking is developing rapidly, with an estimated 272 million users worldwide, of an estimated total of 475 million internet users. The participation and collaboration that characterizes Web 2.0 is the soul of constructivist education, from John Dewey to Piaget and Vygotsky, and championed in LIS education by Carol Kuhlthau and others. Is there an application for Web 2.0 in LIS education? There certainly ought to be, if librarians are to be able to keep up with their millennial patrons. This paper is a report of how one program has been experimenting with blogs and wikis as communication and reflection tools.

Keywords: Web 2.0; Blogs; Wikis; LIS education; School libraries

РЕЗЮМЕ

Web 2.0 е революция в комуникацията, която може да се приеме за далеч по-демократична от тази на Гутенберг или даже от Web 1.0, защото тя позволява на всеки с минимум технически познания да разпространява информация и, което е още по-важно, всеки да може да отговаря почти мигновено и да осигурява обратна връзка с получено съобщение. Според изследване, проведено през март 2008 г. от комуникационната компания Universal McCann, днес в световен мащаб блогове четат 73% от ползвателите на Интернет. Изследването установява ясна тенденция към участие на клиентите в много области. Социалните мрежи се развиват бързо, с около 272 милиона ползватели при общо 475 милиона потребители на Интернет. Участието и сътрудничеството, които са характерни за Web 2.0, са същността на конструктивистичното образование още от Джон Дюи до Пиаже и Виготски и са прилагани в образованието по БИН от Карол Култхау и други. Може ли Web 2.0 да се прилага в образованието по БИН? Сигурно трябва

да може, ако библиотекарите успеят да настигнат читателите от двадесет и първи век. В този доклад се разказва за експериментирането в една програма с блогове и уиката като инструменти за комуникация и критична оценка.

Ключови думи: Web 2.0; Блогове; Уиката; образование по БИН; училищни библиотеки

INTRODUCTION

From Concept to Pedagogical Platform

Library education 2.0 is a new concept that has barely found its way into the library literature. At the time of writing, no journal articles appear to be indexed with this phrase, but three distinct references were found on Google (besides this one for the Sofia conference): two from Australia, from faculty members at Queensland University of Technology and Charles Sturt University in New South Wales, and one from the United States. The Queensland presentation was in the future when this paper was written, and available only as a short abstract that did not refer to the phrase at all, beyond having it as the title of the presentation (Partridge, 2008). The US reference was from a memorial lecture at Catholic University, and goes back in time, referring in a rambling reminiscence and reflection on the future need to weed out anachronisms, like courses in library hand and web pages that discuss how to use the card catalog (Pace, 2008). A troika of colleagues from Sturt also looks to the future, after driving over 2,300 kilometers through the outback from Wagga Wagga to Alice Springs, asserting that: "Library Education 2.0 refers to the need for the implementation of new paradigms within the teaching of Library and Information Management at degree level" (2008). However, the nature of these paradigms is only briefly considered in the context that is germane to the focus of this paper, as Lodge et al point to research on LIS curricula:

> Comparative research of international LIM curricula by Bawden et al (2007) has identified responses to the impacts of changing information behaviours at a number of LIM Schools through the use of Web 2.0 technologies to support student learning. Bawden and his co-authors have described the shift towards a LIM curriculum which matches a Web 2.0 world as "curriculum 2.0". (Lodge et al, 2008, citing Bawden et al, 2007)

A reader seeking more pedagogical enlightenment and a theoretical basis for this curriculum change would be disappointed, though, by the discussion of "curriculum 2.0" by Bawden and his colleagues (2007). Their intention was simply to provide an introduction to their research that surveyed approaches to including Web 2.0 in LIS curricula in Dublin, London, Ljubljana, Sydney and Vilnius, defining Web 2.0 in terms of its founder, Tim O'Reilly, as "the use of the web as a platform for user-generated content and web-based communities, including particularly social networking, wikis and folksonomies" (Bawden, et al, 2007, citing O'Reilly, 2005). Their argument is that

> LIS students, as future information professionals, need to be aware of these complex issues and innovations – technical and otherwise -and need to know more about them than an average user, so as to be able to cope in tomorrow's information world. This, of course, raises the question of how to incorporate these themes into the curriculum. (Bawden, et al, 2007)

A compelling rationale that also provides a pedagogical platform for including Web 2.0 and its application to library and information services in "library 2.0" in the LIS curriculum may perhaps be found in R. David Lankes" concept of participatory librarianship, which derives from the notion that "Knowledge is created through conversation. Libraries are in the

knowledge business. Therefore, libraries are in the conversation business" (Lankes, Silverstein, and Nicholson, n.d.). This contention is based on Pask"s Conversation Theory (Pask, 1976):

> The core of conversation theory is simple: people learn through conversation. Different communities have different standards for conversations, from the scientific community"s rigorous formalisms to the religious community"s embedded meaning in scripture to the sometimes impenetrable dialect of teens. The point remains, however, that different actors establish meaning through determining common definitions and building upon shared concepts. (Lankes, Silverstein, and Nicholson, n.d.)

Conversation theory has been called "a constructivist, dialogical approach to educational technology" (Scott, 2001), and, as such, corresponds well to the works of Vygotsky, Kelly, Dewey and Bruner that have been the mainstay of school library and academic library teaching for information literacy. Consider the theoretical underpinning on which Carol Kuhlthau and Ross Todd base their concept of guided inquiry:

> Guided Inquiry is founded on the belief that learning is a process of personal and social construction. A view of learning as a process of social and personal construction is deeply embedded in the American educational tradition, and has been developed by influential 20th century educational thinkers such as John Dewey (1859-1952), George Kelly (1905-1967), Jerome Bruner (1915 -), Jean Piaget (1896-1980) and Lev Vygotsky (1896-1934). Constructivist learning gives emphasis to an active search for meaning and understanding by learners:
> - learners construct deep knowledge and deep understanding rather than passively receiving it
> - learners are directly involved and engaged in the discovery of new knowledge
> - learners encounter alternative perspectives and conflicting ideas so that they are able to transform prior knowledge and experience into deep understandings
> - learners transfer new knowledge and skills to new circumstances
> - learners take ownership and responsibility for their ongoing learning and mastery of curriculum content and skills
> - learners contribute to social well being, the growth of democracy, and the development of a knowledgeable society. (Kuhlthau & Todd, 2007)

Pask"s conversation theory posits that learning takes place as a result of a conversation, both external with another individual or a source of information, and internal with the individual"s prior experience and knowledge:

> Educators and school librarians may be familiar with the term "metacognition," (Bertland, 1986) or the act of reflecting on one"s learning. Yet, even the most casual reader will be familiar with the concept of debating oneself ("if I go right, I"ll get there faster, but if I go left I can stop by Jim"s…"). The point is that a conversation is with at least two agents trying to come to an understanding. ....The results of these conversations, what Pask would call "cognitive entanglements," are books, videos, and artifacts that either document, expand, or result from conversations. So, while one cannot converse with a book that book certainly can be a starting point for many conversations within the reader and within a larger community. (Lankes, Silverstein, and Nicholson, n.d.)

It follows, therefore, in the argument of Lankes and his colleagues, that libraries and librarians can best serve their patrons by becoming facilitators of conversations:

> Facilitation not only enriches conversations with diverse and deep information, it also serves as a memory keeper, documenting agreements and outcomes to facilitate future conversations. The library serves this vital role for many communities. The concept of

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learning through conversations is evidenced in libraries in large initiatives like information literacy and teaching critical thinking skills (using such meta-cognitive approaches as self-questioning), and in the smaller events of book groups, reference interviews, and speaker series. Library activities such as building collections of artifacts (the tangible products of conversation) inform scholars' research through a formal conversation process where ideas are supported with evidence and methods. This is how libraries have traditionally facilitated and preserved conversations. (Lankes, Silverstein, Nicholson, and Marshall, 2007)

The Internet has become the ultimate conversation as it evolves into Web 2.0. In fact, according to Holtz (2006), several have argued that:

The Internet represents the most significant change to communication since Gutenberg made type move. It's an easy argument to make, but the Internet, like the printing press, is a tool. Change occurs according to how the tool is used. Gutenberg printed Bibles, prompting illiterate people to learn to read and leading ultimately to the Protestant Reformation.

The Internet's real significance was its promise to democratize communication, to forever alter the conditions that led A.J. Leibling to proclaim, "Freedom of the press is limited to those who own one." With the Internet, everybody could have his own printing press and become a publisher. In the Net's early days, though, for most people, the technological barriers were insurmountable, and the Internet remained the province of computer geeks and institutions with enough resources to hire them.

Today, that has changed. According to Intelliseek, consumers today are 50 percent more likely to be influenced by content posted by other customers and individuals than by traditional advertising. We have entered the era of consumer-generated media. Given the tools available today, anybody can publish. Anybody can produce near-professional audio and video, then distribute it to audiences eager to hear or see it. The world is quickly becoming a massive set of conversations. Business success in this world requires more adeptness at participating in the conversation than in delivering the message.

Welcome to the world of Web 2.0.

According to global research by media communications agency Universal McCann, by March 2008 (the third wave of a three-year project, 2006-8), 57 % of internet users surveyed (17,000 in 29 countries) have joined a social network, 83% have watched video clips online, 73% have read a blog, and there are now about 184 million bloggers worldwide. Their claim is clear: "Blogging is becoming increasingly participatory with every *Wave*. The concept of Citizen Journalists is becoming the reality." Their final conclusion is equally clear:

The key technologies that underpin the social media revolution continue their assent. [*sic* ascent?] Social media is [*sic*] established everywhere there is an internet connection and it has to be considered for all advertisers, marketers and content producers as a core part of their communications. Social media has impacted every aspect of the internet and transformed the role it plays in our lives. (Universal McCann, 2008)

Participatory librarianship argues for "a significant mental shift that librarians will need to make in moving from delivering information from a centralized location to delivering information in a decentralized manner where the conversations of users are taking place. And it asks the question: "how do we prepare „participatory librarians?"" (Lankes, Silverstein, Nicholson, and Marshall, 2007). One library education program has been making stumbling steps on the road to preparing participatory librarians through applications of Web 2.0, before it was even aware of the concept of participatory librarianship.

FROM PEDAGOGICAL PLATFORM TO REALITY IN PRACTICE

The Library Media Program at Murray State University was approved by the state of Kentucky as a post-master's non-degree program in compliance with the American Library Association / American Association of School Librarians / National Council for Accreditation of Teacher Education *Standards for Initial Programs for School Library Media Specialist Preparation* (ALA/AASL/NCATE, 2003), beginning in the fall of 2004. Students are required to already have either a master's degree or a post-baccalaureate 5th year program and be certified as a classroom teacher. Delivery is online for the most part, with the exception of a few courses. The coordinator of the program is also the sole instructor of the courses with LIS or LIS-related content, and academic advisor for the approximately 30 students who are actively taking classes.

Online classes are traditionally delivered through Blackboard at Murray State. As such, with the versions of Blackboard that have been available to date, course components are pretty much limited to discussion board, sections for group and course materials or documents, and maybe another section for external web links, all discrete, where the only way to exchange material between the different sections is to copy and paste. The first glimmerings of a Web 2.0 world are seen most easily in the discussion board posts and group discussion boards, where students can interact with each other and create their own conversations, based on the tasks at hand. If we restrict the definition of a blog to the opportunity for personal reflection, groups of one member each can be used as blogs. However, because of their nature as groups of one, the only interaction that can take place can be between the student and the teacher (and, hopefully at least, the result of an internal conversation). A wiki is theoretically possible as a forum with threads, if each thread represents one version of the document, and students remember to create a new thread for each time they edit and make a change. On the other hand, the system does not have the capability to indicate exactly where changes have been made.

But true wikis need the software that is designed for them. And students who are have little or no experience with Web 2.0 need some "scaffolding solutions using information and communications technology (ICT) tools to enable cognitive outcomes that underpin successful learning" (McLoughlin, 2002), thus putting it squarely in Vygotskian constructivist terms. As Bawden et al. (2007) emphasize,

> „Integration" is a key concept. Web 2.0 provides both the content of learning, and the tools to promote learning itself. This gives a particularly strong, and desirable, integration of theory and practice.

Purchasing host space and domain names is generally an inexpensive proposition; thus, the author created domains that would be easy to remember for the students. The cataloging and classification class is designated as LIB 630, and the domain became therefore http://murraylib630.org. In the same way, the author teaches an educational technology class that is open to education graduate students as well as to library media students, EDU 626 Integrating Educational Technology. The domain here became http://murrayedu626.org. The host manager provides a software package called "Fantastico" that with a few clicks and typing in of information automatically installs the administrator's choice from a range of programs, from blogs to content management and wikis, and includes also Moodle, course management software that itself includes blogs, wikis and discussion boards.

Figure 1: Cataloging procedures manual wiki

One of the assignments in the cataloging class is the creation of a cataloging proce-dures manual, as a kind of summary of all that is covered in the class. A wiki would appear to be the best means of accomplishing this, allowing each one of the students to contribute to the creation of a document that they can take away with them as the culmination of their semes-ter"s work, and at the same time allow the instructor to assess each individual"s contribution to the final product. Fantastico allows the download of two wiki packages: Tikiwiki and Phpwiki. Neither appeared particularly easy at first examination to edit or navigate around in. Moodle was therefore tried as an alternative. A screenshot of the final document is shown as Figure 1 above.

Discussion in the educational technology class, EDU 626 Integrating Educational Technology, was conducted entirely using blogs, with the master class blog at http://murrayedu626.org, and the students in small groups of pairs and threes worked on their own blogs to respond to the issues raised in the master blog. The blog software used, WordPress, allows the use of skins to individualize the blogs and the opportunity to use graphics and insert links to external websites. Standard add-ons that can be activated include one rather quirky addition: The Hello Dolly plugin that adds a random line from the song to each of the admin pages (see Figure 2).
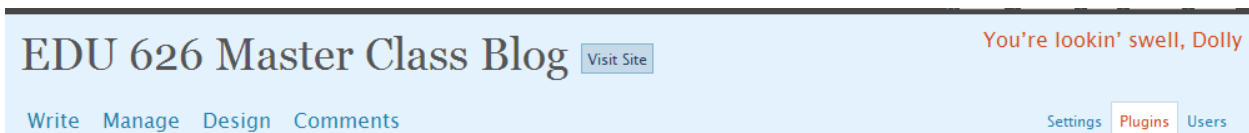
Figure 2: WordPress admin page header

According to its author, Matt Mullenweg, "This is not just a plugin, it symbolizes the hope and enthusiasm of an entire generation summed up in two words sung most famously by Louis Armstrong: Hello, Dolly" (Mullenweg, n.d.). The embellishment was lost on the stu-dent users of the blog, however, since it is not visible on the public pages, and not installed on the student blogs. In general, few of the students made use of the extra features of the blogging

software, and, indeed, many struggled with understanding the difference between posts and comments.

During the subsequent term, two classes, LIB 640 Information Sources and Services and LIB 610 Collection Management, instituted a different tack in the use of blogs, where the students were required to conduct their class discussions as comments in response to the posts in the class master blog, at http://murraylib640.org and http://murraylib610.org respectively. At the same time, each student had a personal blog on http://murraylibrarymedia.org for their own reflection. An extra page was added to the instructor's blog at http://murraylibrary media.org/about/ with tips about "Using Your Murray Library Media Blog." The result was more variation in blog design, better class discussion in the comments, and longer and in many cases deeper and more reflective posts in their personal blogs.

CONCLUSION

Time and comfort with technology are crucial factors in students' acceptance of this new technology. Most of the students in the Library Media Program at Murray State University are full time classroom teachers who are struggling to take maybe one or two courses per semester. They are burdened with the demands of teaching to state curriculum requirements and the vagaries of No Child Left Behind and student achievement testing. At the same time, many of these tools are also blocked or filtered out by their own school networks, to the extent that, though they recognize their importance and popularity, they find it difficult to understand the need to learn how to become fluent in Web 2.0.

Will Richardson, one of the gurus of Web 2.0 in schools comments that he "truly believe[s] that filters make our kids less safe. They step off the bus into unfiltered worlds with no context for making good decisions about the stuff coming at them. It's a huge problem." (Richardson, 2008) Scott McCleod (2008) goes further:

> The democratization of media, the ability of local sellers to compete in worldwide markets, and software that replaces jobs once done by humans are all examples of transformational impacts that have arisen in just the past decade. We are at the forefront of societal change on the scale of the agricultural or industrial revolutions.

> In this environment, school district leaders have a critical choice to make: Will their schools pro-actively model and teach the safe and appropriate use of these digital tools or will they reactively block them out and leave students and families to fend for themselves? Unfortunately, many schools are choosing to do the latter. As a technology advocate, I can think of no better way to highlight organizational unimportance than to block out the tools that are transforming the rest of society. Schools whose default stance is to prohibit rather than enable might as well plant a sign in front of their buildings that says, "Irrelevant to children's futures."

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Wikipedia: The Different Encyclopedia

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WIKIPEDIA: Различната енциклопедия

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ABSTRACT

At the time of dynamic changes in the ways information is distributed it is important to observe carefully Wikipedia. The fast growing of its popularity as one of the main general reference work is a no-doubt fact. Wikipedia is licensed web-site giving access to free multilingual open content encyclopedic information. It is written on the main page: "Welcome to Wikipedia, the free encyclopedia that anyone can edit". The intentions of their founders are to reach quality "like Britannica or better" and to print it. The name "Wikipedia" comes from the words "wiki" (as a network technology for creating collaborative websites) and "encyclopedia" (as a reference edition consisting of alphabetically ordered articles of all branches of knowledge). Based on the above mentioned segmentation of the word "Wikipedia," this paper is focused on the main specific characters of Wikipedia that make it different from traditional, electronic and online encyclopedias. What is the break point between wiki- and encyclopedias? The future perspectives and expectations are outlined. Because Wikipedia is a controversial issue and often it is ignored by the information professionals, the comparison between "Wikipedia, the free encyclopedia" and all kinds of contemporary encyclopedias is a matter for our consideration in order to clarify its presence and future as "the different encyclopedia."

Keywords: Wikipedia; Web 2.0; Online encyclopedia

РЕЗЮМЕ

Във времената на динамични промени в начините за разпространение на информация е важно да се отдели специално внимание на енциклопедия Wikipedia. Въпреки че е оценявана противоречиво, а често и игнорирана от информационните специалисти, нейната популярност нараства и все по-настойчиво се налага като справочен ресурс сред потребителите. Wikipedia е лицензиран уебсайт на отворен достъп, който предоставя енциклопедична информация безплатно онлайн. Тя се самоопределя като „свободната енциклопедия, която всеки може да редактира". Някои от намеренията на създателите й са да достигне качество „Като на Британика или по-добро" и да бъде публикувана на хартия. Наименованието „Wikipedia" произлиза от комбинацията на думите „уики" и „енциклопедия". С понятието „уики" се обозначава мрежова технология за организиране на свързани помежду си уебстраници, а терминът „енциклопедия" се свър-

зва с вид справочно издание, което съдържа азбучно подредени статии от всички области на знанието. Като се основава на горното сегментиране на понятието Wikipedia, статията се спира върху основните специфики на Wikipedia, отличаващи я от традиционните, електронните и онлайн енциклопедиите. Търси се пресечната точка между уики- и енцикло- педиите и се разкриват възможните очаквания и перспективи. Разглеждането на Wikipedia в съпоставка с други енциклопедии би допринесло за изясняване на концепцията за нейното съществуване и по-нататъшното й развитие като „различната енциклопедия“.

Ключови думи: Wikipedia; енциклопедия; свободно съдържание; свободен достъп; справочно издание; многоезичен; Web 2.0.

WHAT IS WIKIPEDIA?

Wikipedia is an example of extremely important tendency not only in the development of the e-encyclopedias of the recent years, but also in the processes of free publishing as a whole, and due to this it is often called the "Wikipedia phenomenon." The question "How does Wikipedia differ from other encyclopedias?" finds its fastest and synthesized answer in the name of the reference resource. It comes from the combination of the words "Wiki" and "Pedia." The notion "Wiki" marks the network technology for the organization of the inter-connected web-pages, and the inclusion of the Ancient Greek "Pedia" reflects the ambitions of the creators of Wikipedia for it to execute most inquiry functions and to offer serious resources in the broadest area of knowledge. Because the leading factor for this new type of inquiry on-line reference resource is the technology of its creation and maintenance, particularly the designation of this technology as Wiki takes the primary place in its title. The additional subtitle "The Free Encyclopedia" directs us to the concept on the free publishing of encyclopedic information from all branches of knowledge.

An indisputable fact is the increase of the popularity of Wikipedia and its ever increasing presence as a reference resource. This demands focusing special attention and a more critical view on the information included there with the goal of its correct placement in the contemporary information environment. Despite its controversial evaluation, and often merely ignored by the informational specialists, I believe that they in particular should execute substantial and various reviews of the advantages and shortcomings of Wikipedia, in order to construct and defend a clear position of the professional society concerning its utilization. Its juxtaposition with other electronic or print encyclopedias concerning the construction and maintenance of the encyclopedic contents and ensuring access to it would contribute for clarifying the conception on its existence and its further development.

The printed encyclopedic editions, the e-versions on CD and the online encyclopedias requiring subscription for their utilization, are products of many years of history. Their editors are reputable experts in reference publishing. The quality of the included information, even if varying in the various editions, is in general not disputed. Encyclopedic editions address the criteria on quality of information (Петков, 2003): reliability, authority of the source, current nature, preciseness, objectivity, informational value, degree of comprehensiveness, cover and integrity. Of all these most important concerning the encyclopedic contents are: reliability, comprehensiveness, versatility and current nature.

WIKIPEDIA AND CRITERIA OF ENCYCLOPEDIAS

To what degree is the content of Wikipedia in conformity with these criteria? Concerning the number of the included encyclopedic articles, Wikipedia could be deemed as indisputable leader ahead of the other encyclopedias – print, e-versions or with online access.

The English language version, the most comprehensive of all versions of the encyclopedia, reached its two millionth articles on the 1st of March 2006 (after 5 years of existence). Up to the month of September 2008 the number of the English language articles amounted to more than 2,581,000. The total number of the encyclopedic headings in all language versions is already more than 10 million (according to the notification forwarded by Wikimedia Foundation), containing more than two billion words, written in more than 250 languages by more than 75,000 authors. Just for comparison - Encyclopaedia Britannica contains approximately 100,000 articles, Brockhaus Enzyklopädie – 300,000, and Microsoft Encarta – about 50,000.

The continuous increase of the included headings in Wikipedia is guaranteed by the opportunity for everybody willing to publish an article on a subject chosen by him or her. This leads not only to the significant increase of the number of articles, but also to the great multi-side nature of the mentioned subjects and reaching versatility in their treatment. The information is published in conformity with the terms and conditions of the General Public License (GNU), ensuring that the contents of the encyclopedia will remain free and nobody would have any claims for getting paid. In addition to this there is a basic requirement for the presented material not to exhibit personal opinion and the subject should be discussed in a versatile and dispassionate manner. Articles on innovative scientific works are not accepted if the innovations have not been previously accepted and reviewed in specialized scientific press. The inclusion of works is encouraged as these works are based on personal knowledge on the subject and are in conformity with the statutory norms for author's rights.

In contrast with the printed or e-encyclopedias, there is no general concept on the included terms and articles. There is no present preliminary defined wording and formulations that are to include the envisioned terms and which are to help for forming the so-called semantic family. Everybody who expressed his or her desire to publish material of his or her own on issue being of interest to the person, has the right to do so and thus very small even insignificant topics find their place in Wikipedia.

Another feature of the included information is that a great part of it is popular and broadly discussed and is often linked with current events. Taking into account the fact that more than 1,500 new articles are included daily on the site of the free encyclopedia, we could underline its brightest feature and its strongest point (according to its defenders) – the current nature of the published information. The renewal of the data of the traditional encyclopedias could take years or is not done at all. In the case of the encyclopedias on CD this is ensured usually once a year. In the case of the online encyclopedias the problem with updating could be deemed as solved. The speed of adding to and renewing of the encyclopedic contents in Wikipedia is impressive. This is an indisputable feature, due to which it is often seen as "reference for current information."

The most contradictory and discussed evaluation criterion is the issue of the reliability of the information included in the free encyclopedia. Wikipedia bears the features of one of the phenomena of the contemporary informational society – the free publishing. This phenomenon will possibly be subject for the years to come of ever growing and deepening interest and analysis. The lack of ensured reliability and preciseness of the presented facts is due to the freedom granted to the users of Wikipedia to create, edit and delete texts. This fact is disputable and is subject to speculations, but it is grounds for the specialists to neglect the contents of the published materials.

The defenders of the free publishing deem that the main value of Wikipedia is particularly this creative approach towards the preparation of articles. Umberto Eco reminds: "Such an idea is not a new one. Before the invention of computers, poets and narrators dreamt of a totally open text that readers could infinitely re-compose in different ways" (Еко, 1996). The continuous editing and improvement of texts, the consistent "smoothing out" the style of the exhibit, adding up new facts, etc., contribute for the greater depth and comprehensiveness of the encyclopedic contents. Adding up the authors articles' external links promotes the informational value of the included materials.

Undoubtedly when it comes to the information contained on the pages or in the e-version of *Encyclopedia Britannica*, its reliability could be deemed as ensured. Created, edited, checked and renewed for more than 200 years, it is accepted as an authoritative reference resource. The encyclopedic articles are prepared by experts in the particular area, who are responsible for the included information. If there are factual controversies, they are not grounds for doubting the reliability of the published data. As a proof of this statement is a fact that it is accepted to cite information from any of these encyclopedias.

However, it is not deemed proper to refer to material published in Wikipedia, namely for the lack of guarantee on the reliability of the data included in it. Most university lecturers recommend to their students not to cite in their research work encyclopedic texts, and others even forbid referring to Wikipedia. Others are more liberally favoring this resource and allow its utilization. In June 2007 the former president of ALA Michael Gorman accused the scientists encouraging the utilization of the resources of Wikipedia and Google by defining them at Britannica Blog as: "A professor who encourages the use of Wikipedia is the intellectual equivalent of a dietician who recommends a steady diet of Big Macs with everything" (Gorman, n.d.). He deems that the web-based sources of information detach the students from working with primary sources, from their work with texts and documents from the shelves of the libraries, as well as from utilizing materials under subscription. As the greatest "threat" in this aspect he points to Wikipedia and Google, because they do not extract such quality results, but only offer free generally accessible materials, often of doubtful quality.

It is shown almost daily that students cite sources from the Internet that are not checked and reviewed. Often they refer to Wikipedia for fast inquiry on certain subject even though being aware of the ensured reliability and accuracy of the published contents. Most of them point out that when they need in-depth research on certain topic, they would use additional external links to the topic as possible start of more comprehensive search in the Internet.

Wikipedia ensures easy way of searching and finding information in the web space predominantly by the mass user. When the need is for in-depth expert knowledge in a certain area, the bases of the respected encyclopedic e-editions are an indisputable preferred source, because they are written and edited by specialists, while the articles in Wikipedia in most cases are prepared by unknown authors, without their aim being clear. Furthermore, the information in the paid resources is stable – its change could occur only in the case of editor's interference, and its updating could be executed monthly, annually or at couple of years, while the contents of the free online encyclopedia are continuously changing.

INCLUSION OF INCORRECT INFORMATION IN WIKIPEDIA

What are the cases of inclusion of incorrect information in Wikipedia?

We could outline two possible approaches for offering incorrect information: one of them is in good faith, and the other is with ill intentions, deliberately. When the encyclopedia happens to include inaccurate facts and knowledge, which were allowed due to lack of knowledge, lack of sufficient competency or just because of mistakes, then we are talking of inaccu-

racy in good faith. Here we should also add the cases of non-deliberately expression of personal opinion, leading to the lack of objectivity of the offered information.

There are cases and unfortunately they could not always be recognized and avoided when it comes to free publishing, in which the inclusion of inaccurate information in the reference edition could aim at manipulating the user or harming individual people or the society as a whole.

During the juxtaposition research on the presence of factual errors in the encyclopedic articles of Britannica online and Wikipedia, executed in the month of December 2005 by "Nature" magazine it was established that on both places there are made insignificant errors: on the average three for every article for Britannica and four for every article for Wikipedia. For each of the encyclopedias were accounted four more significant errors and the rest of 162 for Wikipedia, and 123 for Britannica were called inaccuracies and they are deemed as insignificant. Not satisfied with the published results, the manufacturers of the products with the trademark Britannica were indignant with the executed research and even appealed to the publishers of Nature magazine to give up their publication, accusing them of manipulation and ill intentions for the selection of the reviewed articles. The people who executed the experiment answered back by pointing out that the selected materials were "anonymous," i.e., the people executing the review did not know which text was extracted from which encyclopedia and thus objectivity was preserved in the check execution. In addition to this the text undergoing review and belonging to Britannica were of one specific part – the annual edition "Book of the Year" – and this presented grounds for Britannica to refer to support its defense by pointing out that this part is not of the established and proven articles, but only its addendum. This argument was not accepted as well. The debates and discussions provoked the interest of the media and the further measures on behalf of the creators of e-information as a whole.

Jimmy Wales, co-founder and co-owner of Wikipedia, refers with satisfaction to the executed search and shares: ЭWe aim at catching up with the quality of Britannica and even offering something better" (Gile, 2005). Realizing their weak points and taking into account the contradictory moods, the founders of Wikipedia have undertaken a series of measures on reducing systemic bias and inconsistency.

MEASURES FOR LIMITING UNRELIABLE CONTENTS ON WIKIPEDIA

What are the measures planned and undertaken by the team of Wikipedia on limiting the non-quality and unreliable encyclopedic contents?

The editors of Wikipedia strive to limit the great inflow of low quality contents flooding them on a daily basis. To the many attacks on the lack of reliability and quality of the encyclopedic articles contained in Wikipedia, the founders of Wikipedia answer back via undertaking measures for the obligatory registration and limiting the rights of the anonymous users to make corrections in the materials not written by themselves. "Informational police" regularly review the website and take down changes, so that they can be reviewed and removed if necessary. By eliminating expressed personal opinions, they attempt to ensure a neutral position in the texts of the encyclopedia.

The cases in which the "errors" belong to the second group – the intentionally offered inaccurate data – these measures prove insufficient. "Their existence only confirms the concerns of the greatest pessimists that the informational vandalism is hardly limited to the good will of the editors of the website. And these editors do not differ from the rest of the writers, i.e. the lack of hierarchy in the access to the contents naturally leads to anarchy" (Бойчев, 2005). As they strive for a place of their own in the non-limited information space, the creators of Wikipedia have plans for ambitious projects and undertake consistent measures to their execution.

There were many discussions on the idea for part of the contents of Wikipedia to be frozen. The "frozen" version would be published and would constitute grounds for publishing the next, upgraded version. Initially the idea envisioned ensuring a "core" of specialists in the various areas who were to look after the accuracy of the included information. Later this idea underwent development as specialists were recruited not in the role of editors of the articles, but as authors of the articles. The next stage in their intentions is to work out "featured" articles on separate topics. These articles should be reviewed and they should ensure the reliability and objectivity of the information contained in them. When particular material reaches satisfactory degree of quality, it should be marked as "permanent." Possible changes are allowed only after they have proven to be updated and reliable.

In 2003 Jimmy Wales suggested an offline version of Wikipedia. In 2004 was formed an Editors team whose aim was detecting and organizing the highest quality articles in their accuracy and reliability and form a brand new product - Wikipedia 1.0. Thus was reached the stage of a couple of test versions. Currently the updated version is 0.7, which is a collection of 30,000 articles, selected mainly from the English language version of Wikipedia. The selection and composition work for this version was assigned to the Editors team. The intended use of those articles selected among 1.5 million pieces was to be included in the DVD version of Wikipedia, planned for the end of 2008.

The outsourcing of the quality encyclopedia articles is executed in automated mode (via the application of tags, based on preliminary defined quality criteria) as well as a result of forwarded personal evaluations and nominations for articles. The evaluation is executed on the grounds of the comprehensive nature of the article, the versatile treatment of the subject, and the presence of links to external additional sources for the topic. The ones evaluated as "A" – the highest rate – are deemed complete, despite the opportunity for their possible future editing. Plans are for the selection to take into account as well the popularity of the encyclopedic articles – the more one heading is searched for, the higher the rate is on it, and the possibility for it to be included in the "core" is greater.

ALTERNATIVE FORMS OF WIKIPEDIA

What are the alternative forms presented by Wikipedia?

The development of alternative forms of Wikipedia aims to present to users without Internet access a selection of quality articles and thus to ensure larger access to knowledge. Most probably the paper edition of Wikipedia is a far-off perspective, but partial attempts in this direction confirm the intentions of the creators of Wikipedia to reach the "quality of Britannica and even greater" and to print part of the contents on paper.

Thus in December 2007 Wikimedia foundation announced its partnership with PediaPress publishing house. The cooperation foresees printing on paper articles "by request" of the consumer or forwarding them in a high resolution PDF file. Plans are also for the opportunity for the consumer to develop his or her own personalized encyclopedia, containing only selected articles of his or her own particular interest. Long-awaited is the appearance of the print version of Wikipedia in the German language. The German publishing house "Bertelsmann" is preparing a version of the German Wikipedia on paper. The edition will include the most readable 50,000 articles which are to be selected from 700,000 pieces in German.

Although the perspective of printing out on paper part of the articles in Wikipedia is quite far and not very well-grounded, the realization of e-versions of offline Wikipedia is already a fact. In 2006 was noted the first appearance of Wikipedia on CD - 2006 Wikipedia CD Selection, an electronic version of the English language version. It contains about 2,000 articles selected by the team working on the project Wikipedia 1.0 and is accompanied by a

search mechanism of its own. In 2007 was realized a new edition of the CD version of the encyclopedia, containing over 4,600 articles and some additional elements, connected with the author's right on the included images. Version 2008 was expected to be available on the 15th October 2008 and will include some 5,500 articles and more than 33,000 images.

The team of the German language version of Wikipedia is also acting concerning the CD version. They issue 3 CDs, containing articles of the encyclopedia. The French company Linterweb works in cooperation with Wikimedia foundation on the preparation of the book edition of the French language version of Wikipedia. There are also expectations for a CD version of the Polish Wikipedia, containing about 230,000 articles selected by the consumers and thousands of images.

The various forms of existence of the free encyclopedia once again certify its ever growing popularity. It could also be described with the following data: Wikipedia is in eighth place amongst websites according to their number of visitors (Alexa, n.d.), as it was visited by more than 684 million consumers annually and it is deemed as the most visited site from Google search results. The registered growth of the utilization of the free online encyclopedia is also impressive – 680% for 2 years. We should bear in mind the fact that a great part of the active users of this resource are students preparing their individual tasks and projects in connection with the educational process. Research has shown that the rate of visiting the free encyclopedia depends on the school and university classes – during the summer months and the other longer holidays the interest towards the encyclopedia visibly decreases. Wikipedia is the most popular among the 3,200 recommended reference resources with an educational aim, attracting some 25% of their audience.

In a great extent this is due to the open and free of charge access to its contents. If users desire to have the latest present version of Encyclopaedia Britannica, they must purchase annually the next version of the encyclopedia. If they decide to subscribe to the online-encyclopedia, this will mean an investment of some 60 USD per annum. The World Book encyclopedia requires payment of an annual subscription fee amounting to 50 USD, the Microsoft Encarta is available to the users for the sum of 30 USD per year, or about 75 USD for the CD. Wikipedia is distributed freely and the access to its contents does not require payment or registration. Furthermore, the presence of over 250 language versions eloquently demonstrates the lack of any language limitations.

COMPETITORS OF WIKIPEDIA

Taking into account the various alternative forms of existence of the free encyclopedia Wikipedia and its ever growing popularity logically comes the question: Are there other similar forms of distribution of the encyclopedic information? Is there a competitor of Wikipedia? In December 2007 Google declared their intention to develop a web-based resource containing encyclopedic articles prepared by the users. These articles, called "knoll" (in the sense of "unit of knowledge") are to be shown as first results when executing a Google search on the topic. The resource is available on http://knol.google.com since July 23, 2008 and supplies interface and contents in English, as well as in Arab, Korean, Portuguese and Spanish.

The main difference of the online encyclopedia of Google in contrast to Wikipedia is that the included materials have a defined author, often a well-established expert in the corresponding area. The authors themselves decide to what degree to cooperate with the other users for the preparation or editing of the material. The users have no right of editing, but only of suggesting changes to the author. The published article could be discussed and evaluated by the group of users of the encyclopedia. Nevertheless we should not neglect the fact that Google offers payment to the authors who agree for their articles to contain various advertisements.

Ever clearer is the tendency for broad entering and application of the free publishing of encyclopedic contents. To confirm this is the recently announced (in June 2008) initiative for cooperation in the spirit of the Wiki-societies between the authors of articles for online version of Encyclopaedia Britannica under the surveillance of the Editors team of Britannica.

The appearance of new and ambitious projects in the area of free publishing of encyclopedic content online will most probably provoke new discussions and issues amongst the professionally engaged with the library-information activities. To a significant degree they will refer to core terms and notions such as: free publishing, multi-language use, open access, network based, encyclopedic contents.

CONCLUSION

The expectations for encyclopedic development are for bringing together different general encyclopedias as technology, quality, and access allow, and for ensuring democratization of knowledge through digital communications media. The trends towards ever greater objectivity and preciseness, practical orientation and continuous updating, turn the reference editions into a basic necessity for the contemporary human, because they contain synthesized information on the facts and events of interest to him. The encyclopedias as products of knowledge reflecting the social conditions and their civilization's features, are strongly influenced by the technologies for knowledge dissemination, to which most vividly evidences the appearance and development of Wikipedia during the last years.

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Educating Information Professionals for the Future:
LIS Curriculum Development at Saxion University for Applied Sciences, The Netherlands

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Образование за информационни професионалисти на бъдещето:
Развитие на учебната програма по БИН в Университета за приложни науки Саксион в Нидерландия

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ABSTRACT

In September 2008 the IDM (LIS) academy of Saxion University of Applied Sciences started its new curriculum dubbed HIDS (Human Information Design and Strategy). HIDS is a redesign of the previous IDM (LIS) course that has become obsolete in only four years since it was started. The reasons for this redesign were twofold. Firstly, the information profession is a fast-changing professional environment; a program for an education process lasting 4 years is therefore outdated before the four years are over. Secondly, the previous curriculum did not offer enough space for specialization within the information trade. Both problems were solved in the redesign process by making choices for a different approach during the drawing board phase. The new curriculum offers far better guarantees in delivering junior information professionals to the information trade. Alumni from HIDS will be in touch with the rapidly changing working environment they are trained for, and the curriculum offers the flexibility that is needed in the constant development vocational training demands nowadays.

Keywords: Curriculum development; LIS education; Vocational training

РЕЗЮМЕ

През септември 2008 г. Академията по БИН на Университета за приложни науки Саксион започна новата си учебна програма, наречена HIDS (Human Information Design and Strategy). HIDS е преработен вариант на предишния курс по БИН, който остаря само за четири години. Причините за тази преработка са две. На първо място професионалната среда е бързо променяща се и затова една програма за процес на обучение, който трае 4 години остарява още преди да са изтекли тези години. На второ място, предишната учебна програма не предлагаше достатъчно пространство за специализация в рамките на информационната практика. При преработването на учебната програма тези два проблема бяха разрешени, като в процеса на проектиране се допусна избор между различни подходи. Новата учебна програма предлага по-добри гаранции за

подготвяне на млади информационни професионалисти за информационната практика. Завършилите HIDS ще бъдат запознати с бързо променящата се работна среда, за която са подготвяни, а учебната програма предлага необходимата гъвкавост за съвременните изисквания за непрекъснато развитие на професионалното обучение.

__Ключови думи:__ развитие на учебната програма; образование по БИН; професионално обучение

INTRODUCTION

In September 2008 the IDM (LIS) academy of the Saxion University of applied sciences has started its new curriculum for the information profession. 25 Students have entered the new curriculum dubbed HIDS – Human Information Design & Strategy. The acronym was taken from the 4 subject areas that we found to be defining for the information profession in The Netherlands. In developing this new curriculum we made some radical choices. In this paper we will explain how and why we made those choices.

To make matters clear we will show the development process we carried out. We will give an overview of our analysis of the state of affairs in the information profession, discuss the way we developed our curriculum upon the outcomes of that analysis, and explain the considerations we took into account while making a choice for an educational model for our new curriculum; a curriculum that will prepare students for the information profession of the future.

THE STATE OF LIS EDUCATION IN THE NETHERLANDS

The process of developing a new curriculum for professional education is at times difficult. Ideally one ought to start any curriculum development process by orientation on the profession one is about to develop a curriculum for. Following the outcomes of that analysis, the curriculum is then defined by the translation of professional skills, knowledge and attitude – e.g. competences – into a program of training, courses and final attainment levels, which allows students to develop competences and be educated to become a junior professional. This has been the normal course of action for professional education institute for decades.

This process, which we had been successful in before, showed growing flaws in recent years. Firstly, we experienced growing and ongoing discussion among information professionals on the core competencies of the information profession. As we should use these same competencies to base our curriculum on, we found ourselves searching for grip. On the one hand we were urged to leave the traditional subjects, which were no longer deemed necessary, let alone defining for the information professional of the future. Most skills that were defined over a decade ago, were becoming obsolete (title description, thesaurus construction) and were not wanted anymore by employers in the information trade.

On the other hand, lots of traditional skills were being automated and therefore no longer part of the job requirements of the information professional at the bachelor level. The automation process in society – where everyone has his or her own searching and publishing tools available at the press of a button – showed signs of making the traditional role of the information professional as an intermediary between producer and user superfluous.

This was by no means just our problem. The Dutch information profession had up until some years ago six institutions for professional education at bachelor level: the IDM (LIS) institutes at Deventer, Groningen, The Hague, Amsterdam, Tilburg and Sittard. The two last mentioned have in the meantime merged with their Business Informatics counterparts into a

new curriculum. The only academies that are still offering the IDM curriculum as an independent subject are the first four.

All of them have experienced some or even major problems in attracting enough students in order to be economically viable as an institute. At least part of the problem laid in the vagueness of the profession we and our fellow institutes educated for. No 17 year old alumnus from secondary school got enthusiastic about a profession that was „defined" by „something with information and people" (I"m charging a bit here). Hence the library card was sometimes – grudgingly - played – but to no avail. The trade of librarian was not in fashion anymore, as it was in the seventies and early eighties of last century. We were not able to attract enough new students.

In the meantime the „landelijk IDM overleg" (dutch LIS) did put forward some excellent work in trying to give ground to the ever changing information profession. This amounted to the *Core competencies for the information professional* in which the competencies were defined in the form of „building blocks" that could be used by the different institutions to base their curricula upon (Landelijk Overleg IDM, 2006). Great work, but as we started redefining our curriculum we experienced that the level of analysis was too academic for application in a concrete curriculum development process. We were not able to found a program for a Bachelor of LIS on this foundation. The reasons why are explained by de Bruyn (2005).

ANALYZING THE INFORMATION PROFESSION

In a nutshell the problem with the core competencies boils down to this: the competencies are defined on a *generic*, analytical level, while our curriculum had to be developed upon *specific* aspects of a real-world profession. Without specificity in the demands of the trade we found ourselves lost in providing a clear view on the professional we were educating. And without that clear view, we foresaw continuing problems in interesting new students for the information trade.

This gap proved to be a growing problem. In order for us to be able to define a professional educational environment, we needed at least *some* agreement among the professional community on what the subject area of the information profession *is*. As an academy that has its *reason for being* in the education of professionals, we must be able to be specific about the demands the future working environment of our alumni will pose. So we decided to go to the source, and invite information professionals that are active in the field to help us define such a specific curriculum.

In our analysis phase we organized round-table conferences in which we involved several information professionals of widely differing backgrounds. When asked: "what are the defining characteristics for the information professional of the next decade," the answers we got were multi-interpretable. In fact, it depended highly on the function of the person we were talking to, what answer was given. In our research of the professional field it proved very difficult to find information professionals with an outspoken view on the *whole* of the professional environment. The views expressed by different groups of professionals (librarians, ICT pro"s, information managers in the for-profit sector, and publishers), all operating in the information field, never led to a converging view. Quite the contrary – the demands made by different parties ranged from librarian educators on the one hand, to highly specialized ICT project managers on the other hand.

Thus the professionals we consulted provided us with useful insights, and allowed us to get a view to a rapidly developing professional field. The challenge we faced, however, was to yield those scattered opinions on the information profession into a curriculum that made sense.

The exact boundaries of the existing „market" for our alumni thus proved elusive. The analysis exercise did not lead to the encompassing model of the information professional we hoped for. In the end, we could not discern a useful profile upon which to build our curriculum. We found ourselves stuck.

KEY INSIGHT

At this point we decided we needed to take a step back. This analysis was not getting us anywhere in terms of defining an information professional, let alone a curriculum for such a professional. At one point in our discussions someone stated that the search for *the* information professional profile would prove to be futile. When asked to explain, this person explained that the jobs and the competences needed were, in the ten years since he himself graduated from our LIS department, widely scattered in the ever diverging information field. So you could spend the rest of the decade searching for one definition, without ever finding it.

This proved to be a key insight. So in order to be successful in our curriculum definition, it was necessary to step down from this search, and take aim elsewhere. We decided to look at the patterns you may discern in the profession – and gear our educational program towards providing that kind of junior professional. Those patterns may be vague – but they may be just clear enough to be able to define different subject areas that are necessary for an information professional in the twenty-first century.

Furthermore, this lack of clear views led to us taking a more self-conscious stance in our curriculum development process. The more we discussed the possibilities, the clearer it became for us that we ourselves had to rethink *our* profession: which is to educate future professionals that are „futureproof". Our task is to deliver them to the labor market with a „toolbox" they can use to develop their competences during their careers. And as the information profession is diverging, our academy has to aim at teaching students those competences on a wide range of subjects. The professional environment will have to be involved to offer specialization to our students and give them the opportunity to be trained as a modern information professional that is attractive to the market. Using that insight, our part of the task was - for the first time in some years - becoming clearer at every meeting our development team held.

So, at the end of the process – this was early November 2007 – we stated our task as follows: if the market could not provide us with a relatively comprehensive model for the information professional they would need in the near future, we would provide the market with information professionals they could not do without. In fact we were able to wrestle ourselves out of the gridlock: in searching for the silver bullet, we had failed to see that a shot of hail was what was needed by the market…

TOWARDS A CURRICULUM

In defining the curriculum we decided to take the vague subject areas that were mentioned by the information profession itself, and try to underpin them with subject areas that could be taught in a curriculum. In our lengthy discussions four aspects emerged:

- Human aspects
- Information technology aspects
- Communication aspects
- Enterpreneurial aspects

This transition from „vague" professional subject areas to relatively clear-cut educational subjects gave us the break we needed. The development team concluded that it was

possible to define a curriculum that makes sense, even though the professional field could not provide such a clear view on the professional it needs.

By the way, this is by no means meant as a reproach on the profession! Rapid developments in the information trade prevent anyone from telling in which direction the profession will develop. No one can foretell what new tasks an information professional will be performing in four years time. The future is obviously unclear – but in our trade perhaps a lot more unclear than in some other professions. For information professionals themselves this may be challenging. They can draw their own conclusions on what this rapid development means for them, and act accordingly, keeping their knowledge up to date through different training and courses and showing pro-activeness in professional and personal development.

But for us as an institute for professional education this is a different matter. It means that any curriculum that is developed for four years ahead will be obsolete by the time we are four years further. This makes development of a comprehensive educational program for the information profession for four years is nigh impossible. It was clear to us: we had to find a way to allow our curriculum to provide a platform for faster change.

EDUCATIONAL MODEL

In our analysis we soon found out that we needed a curriculum that enabled us to deliver both the kind of professional the commercial and the not-for-profit sectors needs. So we needed to be able to offer students means of specialization. This meant we had to choose an educational structure for our curriculum to facilitate these different – and at times opposing - goals.

The traditional model of curriculum development is based upon the view that a curriculum has to be defined relatively completely before you start carrying out your program. In general this means that curricula for the bachelor program have been sketched and subject areas have been drawn for four years ahead. Naturally this is a necessity in order for an institution for professional training to be transparent to the accreditation institutions that guard quality in modern education. Without a specific design no accreditation – without accreditation no government funding.

Nevertheless, this designing timeline is specifically geared towards a profession that is ruled by relatively slow-paced - if not planned - change. For the more fast-paced professions however, the pace of change is not incremental, but at times radical. And the information profession is such a fast mover - as anyone in the trade may discern this. And the pace of change has stepped up in recent years.

We experienced the trouble with such a fast-moving professional environment to the fullest during our most recent curriculum redevelopment process: started only 5 years ago, design finished in 2002-2003, and first implementation 2003-4. Within 3 years from the start, the first major overhaul of the new curriculum had to take place, as the profession had developed itself in other directions as was foreseen in the period 2000-2003. So planning a curriculum in our profession four years ahead is not viable anymore, was our conclusion.

THE PLANNING PROBLEM SOLVED

During our design process our team was strengthened by Bas Olde Hampsink, innovation manager of the Academy for Applied Arts and Technology, one of our Enschede sister

academies. They adapted a quite different educational model in comparison to the more traditional ones used by almost all institutes of Saxion University for Applied Science.

So: enter the Applied arts and Technology curriculum model. This curriculum shows a breach in paradigm, as it changes the way it defines the program a student must take. It divides the curriculum in two different parts: the first two years are driven by the institution; the final two years the student drives his or her own development and the institution facilitates this. These facilities include partnerships with leading companies and institutions in the professional field the academy is training for, organizing workshops and supporting classes, but all driven by actual student demand. Speaking in business terms: the first two years are shaped by "push" communication; the last two years by "pull".

In our discussions about this model we concluded pretty rapidly that this would be a „best of both worlds" solution to our problems. On the one hand it would give students opportunities to specialize in the professional field, embedding their development processes in their future working environment as it developed. The match between education and practice could therefore be much better than before. Good for our students. And also great for our institute. As discussed before, a major risk of any institution for professional education is getting out of step with the workfield it is educating for. The mismatch between theory and practice, a complaint often heard in discussions among employers in the field, would be reduced greatly – if not solved completely by the specialization period in the final two years.

For the first two years of the obligatory program the two year planning horizon was also deemed a big relief. We think it provides the educational team with much better opportunities to tune the program to new developments in the professional environment. Planning a maximum of two years ahead reduces the risks of getting out of pace. Moreover, optimizing a two-year program poses less complex in-program tuning questions than redeveloping a four year program does.

So from a practical point of view it was „thumbs up" for this approach.

PUT INTO PRACTICE: OUR HIDS CURRICULUM

We decided to go for the Applied Arts model: the first 2 years of the program are therefore „institution-driven". We define the subjects, provide classes in them, and give students a learning environment that delivers a solid basic introduction in the subjects they need in the trade of an information specialist.

As we just started the new curriculum this September, only our first year has been developed in complete detail; we are busy developing the program for the second year, which is slowly transforming from sketch into an executable program right now. Naturally we can't discuss the final two years in any detail at this moment – as we speak we are busy developing this learning environment at a strategic level, discussing opportunities with existing and potential partners in the information field, and seeking out ways of inviting and involving partners into our curriculum. Over the next year(s) we will get a clearer view on that.

With that said, we provide an overview in schematic form of the first two years of our new curriculum below:

HIDS* cohort 2008-2009

Jaar 1 - kwartiel 1	Jaar 1 - kwartiel 2	Jaar 1 - kwartiel 3	Jaar 1 - kwartiel 4
Voorbereiding project	*Realisatie project*	*Voorbereiding project*	*Realisatie project*
C Web Writing & Copyright 3 >>	**Content Creation** 3	CM Doelgroepdenken 4 >>	**Storage & Delivery** 5
T Technology Skills & Tools 3 >>			
M Perception 3 >>		T Data Analysing & Structures 4 >>	
Realisatie project	*Voorbereiding project*	*Realisatie project*	*Voorbereiding project*
GroupBlog 3	C Mondelinge communicatie 3 >>	**Human Design** 4	CM Presenteren 4 >>
	T Interaction Design 3 >>		T Mobile- & Web-Technology 3 >>
	M Trends & Targets 3 >>		>>
O Business Introduction 3	O Opportunity Recognition & Innovation 3	O Business Opportunity 3	O Business Concept 3
15	15	15	15

HIDS* cohort 2008-2009

Jaar 2 - kwartiel 1	Jaar 2 - kwartiel 2	Jaar 2 - kwartiel 3	Jaar 2 - kwartiel 4
Voorbereiding project	Realisatie project	Voorbereiding project	Realisatie project
>>	**Semantisch Web & Search**	>>	**Strategy (HIDS)**
>>		>>	
Realisatie project	Voorbereiding project	Realisatie project	
Mashing (Content Integration)	>>	**Business Intelligence**	
	>>		
O Business Introduction	O Opportunity Recognition & Innovation	O Business Opportunity	O Business Concept
0	0	0	0

Legend: The educational model for the first two years of the HIDS curriculum. Classes are offered on the four main subjects: **M**=Human (subjects like psychology, ergonomics, perception and information processing), **C**=Communication (subjects like writing, reporting, research, user education, communication policy, both internal and external), **O**=Entrepreneurship (subjects like personal development, skills and competencies for entrepreneurs, planning and running a business, business conception) and **T**=Applied technology (subjects like web building, software usage, xml, software development, project planning and control). The numbers show the workload in ECTS."

The year is divided into 4 blocks (Kwartiel 1 through 4) of 3x10 and 1x8 weeks. During those weeks classes are offered in the different subject areas. Directly following the classes students carry out a project in which they apply the knowledge and skills learned in the previous block. This project „blends" the different subjects and is assessed as such.

FINAL REMARKS

With the model we chose we intend to take our LIS course into the next decade – and we are confident we are on the way up. With relatively moderate PR and publicity (the first rough sketches of the proposed program was available from November 2007, all PR materials had to be developed during the first half year of 2008, and were only available late spring 2008), we managed to bend the trend of falling numbers of students into a slight turn upwards. In numbers: 19 first graders in 2007, 25 in 2008. We expect that the full scale publicity campaign, due to start next December, will enhance this effect even further.

All in all we are looking into the future of HIDS with confidence. We are better prepared, more flexible and more solidly anchored in the ever changing field of the information profession than ever before.

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Medieval Slavic Literary Heritage in the Web Environment: Problems of Presentation, Organization and Retrieval

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Средновековното славянско книжовно наследство в уебпространството: проблеми на представянето, организацията и издирването

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ABSTRACT

On the basis of the brief overview made in the first section of the available Internet editions of medieval Slavic literary monuments, we can outline the main problems related to their presentation, organization and retrieval in the virtual environment. Firstly, there is the problem of digitization of the medieval Slavic manuscripts and the relative delay of this process. Special attention is drawn to Bulgaria, describing the contemporary state of digitization in the country. The second main group of problems is related to the need to prepare electronic editions, allowing computer processing and analysis of the medieval Slavic texts. The report presents briefly the contemporary solutions of these problems, based on the development of information technologies – the application of XML for description and publishing of old Slavic texts, the implementation of Unicode as the character-encoding technology for XML documents, etc. The report ends by suggesting the creation of a web-based digital library for scientific content in the area of Palaeoslavistics, which would unify the information resources and organize them in a system. The purpose of this report is to contribute to the clarification and taking of decisions on the problems as a step towards overcoming them.

Keywords: *Medieval Slavic literary monuments; Electronic editions; Old Slavic texts; Digitization; Computer processing and analysis; Full-text databases*

РЕЗЮМЕ

Въз основа на направения в първата част от доклада кратък преглед на наличните в интернет издания на средновековни славянски книжовни паметници, се очертават главните проблеми във връзка с тяхното представяне, организиране и издирване във виртуалното пространство. На първо място стои проблемът за дигитализацията на средновековните славянски ръкописи и относителното забавяне на този процес. Специално внимание е отделено на България, като се очертава съвременното състояние на дигитализацията у нас. Вторият основен комплекс от проблеми е свързан с необходимостта от подготвянето на електронни издания, които да дават възможност за компютърна обра-

ботка и анализ на средновековните славянски текстове. Накратко са представени съвременните решения на тези проблеми, базиращи се на развитието на информационните технологии - прилагането на XML за описване и издаване на стари славянски текстове, реализацията на Unicode като знаково-кодираща технология за XML документи и др. В края на доклада е формулирано предложение за изграждане на уеббазирана дигитална библиотека за научно съдържание в сферата на палеославистиката, която да обединява и организира в система информационните ресурси. Целта на настоящото изложение е да съдейства за изясняването и вземането на решения относно проблемите като стъпка към тяхното преодоляване.

Ключови думи: *средновековни славянски книжовни паметници; електронни издания; дигитализация; уеббазирана дигитална библиотека; палеославистика*

INTRODUCTION

The intensive development of information technologies in the contemporary society provides opportunities for solving a number of problems related to the preservation, access and effective use of the literary and documentary heritage of humanity, an important part of which are the medieval Slavic manuscripts. With the clear consciousness of the need to use these opportunities, more and more scholars in the area of Palaeoslavistics, in cooperation with specialists in the sphere of library and information sciences, technologies and management of information resources, take an active part in different projects and initiatives at national and mainly at international level. They are directed at computer description, processing and analysis of Slavic manuscripts, at the preparation of electronic editions of their texts and at the creation of digital collections and virtual libraries for storing, displaying and future research of the Slavic literary heritage as part of the European civilization. The first part of the proposed report makes a brief review of the currently available Internet editions of the medieval Slavic literary monuments. The analysis of the research material illustrates the main problems related to the presentation, organization and retrieval of the above-mentioned documents in the web environment, as well as the opportunities for full-text search in them. It is the discussion of these problems and the clarification of the reasons for the poor presentation of the medieval Slavic texts in the Internet that is the focus of this report. The purpose is to support the finding of effective solutions, whose application will lead to considerable acceleration of the processes and to overcoming the unsatisfactory position that the documentary sources studied by Palaeoslavistics currently hold in the global network.

It is necessary to mention at the beginning that part of the problems discussed here were raised in 2000 in the report of Tatyana Nikolova-Houston (University of Texas at Austin, USA), "The Internet and the Virtual Scriptorium of Slavic Medieval Manuscripts: Preservation and Access", delivered at the international conference "Libraries in the Age of the Internet" held in Sofia. In her report, the author mentions the availability of several virtual manuscript collections in the global network and discusses digitization as a way to preserve them and ensure access to them. We would add that the electronic editions are a valuable tool for studying texts with a large number of variant readings and a rich hand-written tradition, which makes them an invaluable helper when conducting research in the area of Mediaeval studies as well as for the purposes of education. This is due to the hypertext organization of information in the Internet, providing an opportunity for parallel display and comparison of the data from all preserved and examined copies, and eliminating the restrictions with regard to the scope of the critical apparatus. This facilitates the textual analysis and creates conditions for accumulating a solid factual basis for conducting both purely linguistic studies and textological studies. Another distinctive feature of the electronic publications is the opportunity for

interactive selection of the textual variant and the form in which the document could be presented. In addition, by means of hyperlinks each textual segment in them could be referred to a linguistic annotation, and the text as a whole could be referred to different commentaries: paleographic, linguistic, textological, cultural-historical, etc. Some of the electronic publications are accompanied by systems for full-text searching and textual analysis, whose programs include a series of procedures for creation of vocabularies and indexes. An important advantage is the possibility to continuously improve and update the already published editions. If we have to define the nature of the electronic publications of the manuscripts in the most concise and accurate way, I think we can adopt the following viewpoint of Yury V. Kagarlitsky, "The digital edition of a manuscript must be developed as a hierarchical information system, out of which different users would be able to extract information at different levels: textological, orthographic, lexical, grammatical, etc." (Kagarlitsky, 2003).

The large opportunities mentioned above, which are provided by electronic publications for studying the medieval literary heritage still cannot be evaluated sufficiently well and used in the area of Palaeoslavistics, where the efforts are directed mostly at the electronic description of the manuscripts, while the preparation and publishing of their editions in the Internet is lagging behind. In order to illustrate this statement, I will use the material available in the global network and will briefly present the main collections or separate editions of medieval Slavic monuments, which are published there and which I have found as a result of a large-scale search.

IMPORTANT VIRTUAL COLLECTIONS OF SLAVIC MEDIEVAL MANUSCRIPTS

The first virtual collection I will discuss is *Corpus Cyrillo-Methodianum Helsingiense*, which is available at the site of the Slavonic and Baltic Department at the University of Helsinki. It is a representative of the relatively older electronic versions in the Internet, where the texts with written systems, different from the Roman alphabet, are presented in transliterated form. For the purpose, the standard ASCII (American Standard Code for Information Interchange) symbols are used. The main goal of this large-scale project is to issue some of the most valuable literary monuments for studying the Old Bulgarian writing in electronic format. At this stage the following is available in the network: Codex Assemanianus (preliminary version), Codex Marianus, Codex Suprasliensis, Codex Zographensis, Savvina kniga (preliminary version), Vita Constantini and Vita Methodii. Additionally, a link is provided to the electronic editions of Kievan folia, Prague fragments and Freising fragments, whose texts are also transliterated. Since they are published on separate sites, they could also be accessed directly. Two more sites can be accessed through the main page of Corpus Cyrillo-Methodianum Helsingiense: *Obshtezhitie* and *Kodeks*. Obshtezhitie is designed for studying Cyrillic and Glagolitic manuscripts, as well as old printed books. Kodeks is a server for resources in the area of Slavic mediaeval studies. Despite the significance of the project goals and the absolute need of the availability of electronic versions of the earliest Slavic literary monuments in the network, the work of the researchers with the publications included in Corpus Cyrillo-Methodianum Helsingiense is extremely difficult due to the fact that the texts are transliterated.

The successful application during the last few years of the Standard Generalized Markup Language (SGML) and Extensible Markup Language (XML) for description and publishing of medieval Slavic texts has facilitated substantially the development of Palaeoslavic studies. Here it is necessary to honor the efforts and continuous work of David J. Birnbaum on the preparation of the electronic edition of *"Povest' vremennykh let" ("Rus' Primary Chronicle")* in a format based on the principles of Text Encoding Initiative (TEI) with the standard SGML. Currently he works on XML edition of the Russian chronicle. The creation of the machine-readable version is based on the critical edition of Donald Ostrovski, available on

the Internet in static PDF format. Ralph Cleminson has prepared two electronic versions of *The Budapest Glagolitic Fragments* – the initial SGML version and the new and more user-friendly XML version. In fact he is the first one to implement SGML and subsequently XML edition of Glagolitic text. The implementation of the two standards allows the performance of numerous complex operations on the processing of the manuscript.

Another important project, whose results have been available in the web environment for a long time, is the so-called *Trondheim-Sofia Corpus of Early Slavic*. This virtual corpus includes texts of nineteen East-Slavic literary monuments from XIth century, which are so far accessible only in PDF format. Its creation is a result of the joint efforts of the Faculty of Arts at the Norwegian University of Science and Technology in Trondheim, the Bachelor's Faculty at the New Bulgarian University in Sofia, and the Slavic Linguistic and Textological Laboratory at Sofia University „St. Kliment Ohridski". An important disadvantage is the lack of an option for full-text search and analysis of the results. According to the initial plan, the construction and implementation of a searching system are to take part in the second stage of the work on the project. The problem at hand has been resolved in an exemplary way by the team of philologists and programmers at the *Udmurt State University* (Izhevsk, Russia), who maintain a portal for presenting the full texts of medieval Slavic manuscripts. The information retrieval system they have developed for studying hand-written books "*Manuscript*" allows to search for specific information by a given enquiry, to review and select the results of the enquiry, to compare and summarize the information obtained for the grammatical sings of the classes of words, to develop vocabularies and indexes, to prepare lexical articles, etc. At the same time, the adopted main principle for setting up the texts according to the hand-written originals is strictly observed, reproducing their essential specific features with maximum precision.

A number of other Russian institutions and organizations also publish on their websites editions of medieval Slavic texts. They include "*Society on Byzantine-Slavic Studies*" in St. Petersburg, "*Moscow Patriarchate*", "*The Holy Trinity-St. Sergius Lavra*", etc. In addition, there is a multitude of independent Russian sites, which are completely dedicated to programs and projects for issuing Slavic manuscripts and old printed books in full text, for example "*Slavic Bible*", "*Memory of Russia*" (unfortunately, this site is currently inaccessible), and many others. The work on these editions is proceeding extremely rapidly and many of the materials envisaged for publication are already accessible in the network. Here I would like to draw more attention to the site of the Holy Trinity-St. Sergius Lavra. I think it is a rather appropriate example of the visible progress that Russia has made in the area or information technologies during the last few years and of the significant results it has achieved lately with regard to the digitization and full-text presentation in the Internet of its own literary heritage. Currently this site presents the facsimile editions of over 1500 Slavic manuscripts. Among them are all the 823 medieval manuscripts, which were owned in the past by the library of the monastery, and which are currently stored at the Russian State Library. Thus in about three years only, the whole unique manuscript collection of the monastery has been converted into electronic format, allowing remote access. Besides, the images of the manuscripts are of very good quality. Due to the value of the collection, the above-mentioned achievement is of extreme importance for the development of Slavic studies and attracts great interest among scholars.

Another important event in the area of Slavic studies is the available access to the digitized *Kopitar Collection of Slavic Codices* through the site of the National and university library in Ljubljana. It allows to review about 13 000 digitized images and bibliographic descriptions of manuscripts, as well as to do interactive search in texts and images.

For more than a decade the Croatian written culture has been presented by Darko Zhubrinich through a series of publications in the web environment, dedicated to the written systems (Glagolitic alphabet, Cyrillic alphabet and Roman alphabet) used by the Croats

throughout the centuries and their application in the preserved monuments. The studies include discoveries in the Croatian territories, a relatively early epigraphic material, which is an extremely valuable source of data for the development of the Croatian Glagolitic tradition. Here I will mention the Internet publication prepared by D. Zhubrinich of one of the oldest epigraphic monuments from these lands - *The Baska Tablet*, which is presented with a photograph and transliteration of the Glagolitic text on it.

This is the last document from the list of the materials available in the network, which are of interest to us. The overview made here is not absolutely exhaustive, however we can easily say that the main editions of whole corpuses or of separate Slavic medieval texts are reflected in it. Of course, there are an enormous number of sites in the Internet, providing access to different types of information resources in the area of Palaeoslavistics, and currently work is done on a number of projects worldwide. Among them are the rather successful *"Repertorium of Old Bulgarian Literature and Letters"* (a joint Bulgarian-American project for describing medieval Slavic manuscripts with the help of computer means), *"Bibliotheca Slavica"* (a Bulgarian project for creating an electronic library for Bulgarian Slavic studies), etc. A number of new initiatives are also being discussed. However, it is an undeniable fact that the medieval Slavic manuscripts in full text are rather poorly presented in the web environment. Which are the reasons for that? Firstly, we have to point out that most of the Slavic manuscript collections are still not digitized. Furthermore, many of the manuscripts located in the book depositories in Russia and the republics of the former Soviet Union (mainly Ukraine) have not been well studied and described yet. Foreign scholars continue to have difficulties accessing them, while local scholars are not able to cope alone with the large number of undescribed medieval books. Let us only remind that the largest and richest collections of Slavic codes in the world are stored precisely in Russia. Given this situation, it is necessary to consider and propose a comprehensive program for continuing the work on the studying and cataloguing of the manuscript collections. The results of its application will have a positive impact not only on the development of scientific research but also on the process of digitization in the discussed area. The research, identification (where necessary) and description of the materials is a good basis for their digitization. The availability of sufficiently complete information on the collections provides an opportunity for coordinating the efforts at national and international level and for building an appropriate and effective strategy for digitization, which is based on the knowledge of volume, content, physical condition, and value of the funds.

VIRTUAL COLLECTIONS IN BULGARIA

For a long period of time in Bulgaria there has been purposeful work done on the collection and description of the data for the Slavic manuscripts stored in the Bulgarian book depositories. As a result, today we have available descriptions of most of the manuscript collections. The summary information from these descriptions, as well as from other sources indicates that the Slavic manuscripts are stored in a number of book depositories in the country, with the largest collection being stored at the National Library "St. St. Cyril and Methodius" (about 1500 manuscripts), while the rest of the multiple collections are stored at the Church-Historical and Archival Institute of the Bulgarian Patriarchate in Sofia, the library of the Rila Monastery, the National library "Ivan Vazov" in Plovdiv, and the Central Library of the Bulgarian Academy of Sciences in Sofia. The fact that most of the preserved medieval manuscripts in Bulgaria have been described provides grounds for checking the rate of digitization of this invaluable cultural heritage. As one could suppose, the rate of digitization is lagging considerably behind the world achievements, and the rate of progress is not very rapid. So far the only library that has started to systematically publish in the Internet its digitized materials is the National library "St. St. Cyril and Methodius". As a national library it is normal to be the leading institution in that respect. The project on the creation of a digital library

of copies of the documents stored there, which started two years ago, is currently in the process of development. The materials are organized in several documentary massifs. The method of full description, providing complete and comprehensive data for each monument, is used for presenting the manuscripts. The number of digital manuscript copies increases permanently.

During the last years some other scientific and cultural institutes in Bulgaria have prepared and worked on projects for digitization of the materials they own. The Bulgarian Academy of Sciences has started a project on the creation of a working model to be used for building up an electronic archive of the scientific and cultural heritage of Bulgaria. The main tasks are related to the elaboration of a uniform strategy for digitization of the archives, definition of the priorities and good coordination among the institutions. Without doubt, priority will be given to the funds of manuscripts and archive materials of the Central Library and the Scientific Archive of the Bulgarian Academy of Sciences. The Institute of Mathematics and Informatics, where a Digitization Center has been set up, is the coordinator of the project. The work on the different funds has started with the digitization of the archive of Marin Drinov, who is the first chairperson of the Bulgarian Literary Society (a predecessor of the Bulgarian Academy of Sciences).

The Cyrillo-Methodian Department at the Faculty of Slavic Philologies at Sofia University has been working intensely on a project for digitization of the manuscripts of the Rila Monastery. According to the participants in it, most of the literary monuments have already been digitized and different scenarios for their presentation in the Internet are being discussed. Publications from the last years contain information that the digitization of the manuscript collection in the Church-Historical and Archival Institute has started. This collection is in an extremely bad condition, which calls for fast and effective measures for its preservation.

Currently we do not have any information about other initiatives in connection with the digitization of Slavic manuscripts. The information we have presented here indicates that Bulgaria is still far away from the creation of an electronic archive of the medieval Slavic literary heritage, stored here. Actually, this conclusion could also be made about some of other countries in Eastern Europe where most of the Slavic manuscript collections are stored. There are different reasons for this condition, but it seems that the most common reason is the lack of resources for digitization. This problem could be resolved through cooperation among the institutions at national and international level for participation in joint projects within or outside the frameworks of different programs.

The second main group of problems with respect to the presentation of medieval Slavic texts in the Internet is related to the need to prepare electronic editions that allow doing computer processing and analysis of these texts. The difficulties related to the publishing of medieval literary monuments are mostly due to the antiquity of their written systems and the rich hand-written tradition of most of the texts. When studying an already existing electronic edition, we come across difficulties if it does not provide opportunities for searching, retrieving, and analyzing data from the text. The existence of numerous problems of different type, which accompany the realization of such editions, impedes the specialists from developing similar projects. As a result, there are very few such projects. On the other side, the successful implementation of such projects could be a real challenge for many of the specialists. That is why, using the modern experience, I will try to present briefly some of the most efficient technological solutions of the problems at hand.

TECHNOLOGICAL SOLUTIONS FOR ONLINE COLLECTIONS

The development of information technologies during the last years was marked by two important events. The first one is the birth of XML language, which is simplified web-oriented version of SGML. Its origin led in turn to the creation of a special working group at the con-

sortium TEI, which deals with converting resources from SGML to XML format. XML has continued and developed the principles of the SGML-standard, which is based on the opportunity to include special "markings" in the texts, which facilitate the retrieval of data when processing them. One of the main advantages of XML is that it increases the capacity for data exchange in the web environment. The opportunities provided by the two standards for searching by specific criteria in the electronic texts, has determined their successive application in the description and publishing of Old Slavic literary monuments. The second important event is the implementation of Unicode as the character-encoding technology for XML documents. The availability of a large choice of fonts in the structure of Unicode eliminates the need of transliteration of the texts with written systems different from the Roman alphabet. Thus the electronic copies are most close to their originals. The preparation of documents in XML format allows performing a number of activities related to the processing of texts (search, retrieval, and transformation of data). Conditions are created for data exchange. Within the framework of the international union Unicode, there is intensive work being done on the regulation of the standards for computer presentation of the old Cyrillic and Glagolic alphabets.

The design and realization of editions of medieval literary monuments has to take into account the fact that most of them have a long and rich hand-written tradition, which has created a large number of copies of a given text. Besides, very often we have documents that are extremely complex in structure and content. This requires searching for and finding the optimum variant of structuring and linking the separate parts and elements of the edition in a system. In this respect the modern technologies provide a really wide range of opportunities, both for presenting and for selecting information, thus allowing its study at different levels and from different points of view, depending on the specific needs of the users. A number of modern technological solutions could be applied successfully in the preparation of electronic publications of medieval texts, providing an opportunity to create links between the main text and the critical apparatus, to compare the different readings, to process the data and create vocabularies, to identify different textual segments and apply linguistic information to them, to add different types of commentaries to the text, including information on the programming and fonts, instructions for work, etc., and finally – to complete the entire organization and connection of the elements in a unified system. This would lead to the creation of information resources, which are suitable and useful both for conducting scientific research and for educational purposes.

Finally, I would like to discuss another important problem, which refers to a large part of the resources in the web environment and is related to the way they are organized. Many of these resources are literally scattered chaotically in the global network, without any system or order. This impedes searching and finding them. The specialized documents in the area of Palaeoslavistics are not an exception of this rule. This problem could be resolved by the creation of a web-based digital library for scientific content in the area of Palaeoslavistics, which integrates not only the editions of the medieval Slavic monuments but all the literature related to them, which is published in the Internet (descriptions, scientific studies, textbooks, etc.). Its creation as a full-text database will provide an opportunity for searching and finding of the available materials. The searching by criteria defined in advance will be based on the metadata provided for each of these materials. In addition, the creation of a common web platform, which unifies, connects and structures the resources in the discussed area on the basis of specific principles, will increase the degree of interoperability between databases, and the capacity for exchange of information stored in different formats. Of course, it is necessary to select very carefully the appropriate technology for realization of the virtual library. The most important result of its creation will be the availability of fast and unimpeded access to the searched specialized resources in the area of Slavic Mediaeval Studies, which will significantly facilitate the scientific research and studies, as well as the training process.

CONCLUSION

The problems mentioned above could only be resolved by the joint efforts of many interested specialists, teams, and institutions around the world. It is only their unified, consistent and purposeful actions that could lead to overcoming the lagging behind in the area of digitization and full-text presentation of the medieval Slavic manuscripts in the Internet, and support the realization of the opportunities for computer processing and analysis of the texts. This is important since the Slavic medieval written culture is an integral part of the world cultural history, and the display of its monuments in the virtual environment will expand and enrich the contemporary views of this history.

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The National Library of Bulgaria's Policy of Preservation of Cultural Literary Heritage through Intensive Development of Information and Communication Technologies

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Политика на националната библиотека на България за опазването на културното книжовно наследство чрез интензивното развитие на информационните и комуникационни технологии

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ABSTRACT

This report considers the priorities for preserving the national literary heritage in the Bulgarian National Library and suggests a plan for a national strategy for digitization of literary, manuscript and documentary heritage. The plan and the kind of documents include:

- Digitization of showy visual materials (richly decorated manuscripts, old cards, portraits and pictures), which will create an initial interest towards our content (with free access);
- Digitization of the oldest kept manuscripts and documents independent of their lineage (from 10th to 13th century) in order to be preserved and facilitate their research;
- Digitization of Bulgarian written heritage from the 14th century – giving proof of the Second Golden Age of Bulgarian literacy and culture;
- Digital database on miniatures of Slavonic manuscripts – 10th to 19th century;
- Digitization of Ottoman, Greek and Latin manuscripts from 14th to 18th century (chosen according to the text);
- Digitization of periodicals (all editions until the 1960s) by subject;
- Digitization of threatened collections and collections with difficult access to the Bulgarian written monuments.

Practices for intensive development of technologies are examined by implementing the project "Virtual library – Bulgaria I stage," which sets as a premise the creation of a United National Library- Information System with a cooperating catalogue. It is useful for current scientific information and providing access to national literary cultural heritage. The implementation of the projects on digitization, creation of digital library and expected results are connected with integration and our active participation in the work of the European Library; optimizing the work processing of documentary flows; and providing quick access for users to the National Library.

Keywords: *National library; Cultural heritage; Digitization; Virtual library*

РЕЗЮМЕ

Докладът разглежда приоритетите в опазването на националното книжовно наследство в българската Национална библиотека и предлага план по етапи и видове документи за национална стратегия за дигитализирането на книжовното ръкописно-документално наследство, запазено в България , който включва:

- дигитализация на ефектни визуални материали (богато украсени ръкописи, стари картички, портрети и снимки и др.), които да създадат първоначален интерес към фондовете и към съдържанието(с безплатен достъп);

- дигитализация на най-старите запазени ръкописи и документи, независимо от произхода им (до края на XIII в.-X-XIII в.) с оглед съхранението и улесняване на проучването им;

- дигитализация на българското ръкописно наследство от XIV в.- обосновка с Втория златен век на българска книжнина и култура;

- дигитални бази само на миниатюрите от славянските ръкописи X-XIX в.;

- дигитализация на османски, гръцки и латински ръкописи от XIV-XVIII в.(изборно, според текста);

- дигитализация на периодика (пълна на изданията до 60-те години на XX в. и по теми на старата периодика);

- дигитализация на заплашени от унищожение или труднодостъпни сбирки от българските писмени паметници.

Разглеждат се практиките за интензивното развитие на информационните технологии чрез реализиране на Проекта „Виртуална библиотека – България. I етап“, който предпоставя създаване на Единна национална библиотечно-информационна система с кооперирано каталогизиране за текуща научна информация и осигуряване на достъп до националното книжовно културно наследство. Изпълнение на проектите за дигитализация на документите на Националната библиотека и създаването на Дигитална библиотека. Очакваните резултати са свързани с включването и активното ни участие в работата на Европейската библиотека; с оптимизиране работата по обработката на документалните потоци; с осигуряването на бърз достъп на потребителите до богатствата на Националната библиотека.

Ключови думи: опазване и достъп до книжовно-документалните паметници; специални колекции от документи, ръкописи, инкунабули, старопечатни книги, снимки и др.; нови технологии; електронни каталози; дигитализация на културното наследство; библиотечни програми; Национална библиотека

Дигитализацията стана „модна“ тема в България. Изведнъж всички се сетиха, че трябва да се дигитализират едва ли не всички библиотеки цялостно, но особено важно е да се дигитализира изцяло книжовно-документалното ни наследство. Започват да се правят десетки проекти, включително от хора и учреждения, които не притежават ценни фондове, нито пък са работили с подобни колекции. В Националната библиотека постъпват множество запитвания и предложения от различни граждани (включително и изследователи) за дигитализиране или издаване в електронен вариант на един или друг паметник, като под дигитализиране често пъти се разбира, грубо казано, „нащракване“ на книгите и документите, без да се отчита как ще се ползват, как ще става търсенето на определени места в тях, как ще се стандартизира описанието, с кои елементи ще бъде представен паметникът и ред други въпроси. Втурването „през глава“ към дигитализация може да доведе по-късно до ред проблеми при един безразборно натрупан масив, който практически да бъде неизползваем. Неслучайно редица библиотеки не бързат чак

толкова с дигитализацията на редките си и ценни фондове и като пример тук можем да посочим Британската библиотека, която засега е дигитализирала едва около 2% от тях.

Очевидно е, че трябва да се изготви една национална програма за дигитализация, която да обедини и насочи в една посока всички усилия на физически и юридически лица, които желаят да работят в тази насока. Такива са и препоръките на CENL. По-долу ние правим пръв опит да дадем схема за такава програма, като отчитаме не само онази част от ръкописно-документалното наследство, което се съхранява в НБКМ, но и данните, които имаме в това отношение от цялата страна.

ПОЛИТИКИ В ОБЛАСТТА НА СЪДЪРЖАНИЕТО

I. Повечето европейски библиотеки слагат ударението върху дигитализацията на старите периодични издания. И у нас тези издания спешно трябва да бъдат дигитализирани с оглед съхранението им, от една страна, и по-лесното им използване, от друга. Това обаче е изключително трудоемка работа. При всички случаи трябва да бъде направено така, че лесно да става търсенето на определени материали, поне по хронология и по имена на авторите. Народната библиотека предприема един експеримент в това отношение:

- на първо място започва с дигитализацията на първите български научни списания, които са много интересни като съдържание, а сравнително малки по обем (излизали по няколко години);

- подготвя проекти с оглед допълнително финансиране и ангажиране на външни фирми за дигитализация на ежедневниците и седмичните вестници от 1878 до 1978 г. (I етап);

- разработва проекти за изборно дигитализиране на отделни материали по определена тема. Първата такава тема, съгласувана с Международния комитет на франкофонията, е Франция в България през първите години след Освобождението. Ще бъдат дигитализирани и включени в мултимедиен продукт всички материали, свързани с Франция, в български вестници от 1878-1880 г. Това ще покаже каква е била ролята на Франция, на френската култура, на френската политика, мода, кухня в оформянето на младата българска държава от 70-те и-80-те години на XIX в.

II. Дигитализиране на ръкописното наследство. Тук също трябва да бъдат откроени някои приоритети. Преди всичко, че на този етап няма нужда в пълнота да бъдат дигитализирани всички ръкописни паметници, съхранявани в библиотеките. Трябва да се има предвид например, че 62% от всички запазени до днес славянски ръкописи са евангелия и др. библейски книги – т.е. книги с един и същи текст, който няма нужда да бъде изцяло възпроизвеждан стотици пъти. По-практично и по-важно за ползвателите – от специалистите и от широката културна публика, би било да се откроят следните основни етапи:

1. Дигитализация (изцяло) на някои знакови български, славянски и чуждоезични ръкописни паметници – паметници с богата украса, с уникално съдържание, с интересни приписки и извънтекстови бележки, които касаят важни събития от българската, балканската и световната история. Тези паметници ще участват в Европейската дигитална библиотека, в Българската дигитална библиотека и на други места, където ще бъдат на свободен достъп. Те ще изиграят ролята на своеобразна „реклама" за богатствата на нашите библиотеки, ще привлекат по-голямо внимание към тях. Съответно и по-голямо търсене.

2. Изцяло трябва да бъдат дигитализирани най-старите славянски паметници, съхранени в България, с хронологически обхват от X до XIII в. Те не са много, извън-

редно ценни са като езиков, литературен и текстологически материал, а и са в повечето случаи в недобро състояние. Тези паметници са легнали в основата на цялата славистика (някои от тях са много известни сред учените от цял свят) и заслужават по-внимателно проучване и повече достъп.

3. Цялостна дигитализация на българското ръкописно наследство от XIV в. Четиринадесетото столетие е Вторият златен век на българската писмена култура и ако от Първия Златен век почти нищо не е останало в оригинал, то Вторият е много добре документиран. Подготовката на една дигитална, виртуална библиотека „Българският XIV век", в която по възможност да се включат и български ръкописи, които днес се намират в чужди книгохранилища, ще даде на света една съвсем друга представа за България като държава на духа, държава на книгата и културата, на високите християнски ценности и добродетели.

4. Подготовка на дигитални бази данни само на миниатюрите от славянските ръкописи от X до края на XVIII в. Подобни бази са едни от най-често посещаваните в другите европейски библиотеки. Първо място държи Френската национална библиотека, чиято подобна база носи мистичното име „Мандрагора".

5. Постепенна дигитализация на цели ръкописни паметници от XV-XIX век (по преценка на изследователите, според ценността на съдържанието им). Тук например би могло да се предвиди дигитална библиотека на всички преписи и преправки на Паисиевата „История славянобългарска", със съответните тълкувания и препратки.

6. Дигитализиране (изборно) на отделни гръцки, латински, арабски, османски и др. чуждоезични ръкописи – според уникалност на украсата и текста.

7. Подготовка на дигитална „виртуална" библиотека „Българските апокрифи" – оригинали и превод. В апокрифните сборници са включени едни от най-интересните текстове на старата, среднобългарската и възрожденската българска книжнина. Те са в някои отношения и най-лошо проучените текстове. А със сигурност ще представляват интерес за хора с разностранни интереси.

8. Цялостно трябва да се дигитализират, след специално подготвени и целево финансирани проекти, застрашени от унищожаване ръкописни сбирки от страната, които не се съхраняват и никога не са се съхранявали при специален режим. Това се отнася например до сбирката на Църковния историко-архивен институт, която в най-буквалния смисъл е заплашена от унищожение.

III. Подготовка на дигитална библиотека от първите български печатни книги, като се започне с изданията на Яков Крайков и се стигне до изданията на Ботев, Славейков и Стамболов отпреди Освобождението 1878 г.

IV. Дигитализация на архивните фондове:

1. Би следвало цялостно да се дигитализират най-ценните фондове на български и други дейци отпреди Освобождението и от „Строителите на нова България" – такива, като Л. Каравелов, Хр. Ботев, З. Стоянов, Е. Георгиев и др., както и грамоти, фермани, царски укази и др. до края на XV в. (доколкото ги има).

2. Дигитализация на старите портрети, снимки и пощенски картички – важни визуални документи за миналото.

3. При специален режим да се пристъпва към дигитализацията на писателските архиви. Те първо трябва да се проучат внимателно за неиздадени съчинения, които да се подготвят за издаване с подробен коментар. За починали след 1970 г. автори следва да се изяснява и въпросът с авторските права.

4. Да не се дигитализират засега нови архиви на личности, чиято дейност е продължила след 1970 г. – или поне да не се пускат на свободен достъп.

ПРАКТИКИ ЗА ДИГИТАЛИЗАЦИЯ НА ДОКУМЕНТИТЕ В НАЦИОНАЛНАТА БИБЛИОТЕКА И СЪЗДАВАНЕТО НА ДИГИТАЛНА БИБЛИОТЕКА

Работата по дигитализацията на документите в Националната библиотека се осъществява в рамките на няколко проекта:

Проект „Дигитален център“

В началото на 2006 г. започна работата по Проекта „Дигитален център на Националната библиотека“, свързан с приоритетното реализиране на програмата за реформи в технологиите в Националната библиотека и по-точно с дигитализирането на библиотечните фондове. Проектът беше финансиран с целеви средства от Министерството на финансите и със съдействието на Министерството на културата, що се отнася до закупуването на техническото обзавеждане и основния софтуер. Проектът на Националната библиотека включва дигитализиране на стратегически важни документи от уникалните колекции – славянски ръкописи, старопечатни книги, архивни документи, документи и снимки от българския исторически архив и други. В рамките на пилотния проект първоначално бяха дигитализирани над150 документа, така че да се установят основните принципи и правила за тяхното описание, съобразени както с международно приетите стандарти, така и със спецификата им.

В Дигиталния център бяха направени и няколко подобрения чрез закупуване на нова техника.

Проект „ДАПИС“
(Дигитални архиви и документи: популяризиране, изучаване, съхранение)

В края на 2006 г. стартира и Проектът ДАПИС (Дигитални архиви и документи: популяризиране, изучаване, съхранение), който е насочен към реставрационните и дигиталните методи на съхранение на специалните сбирки в библиотеката. Проектът е спечелил субсидия от Министерството на образованието и науката в рамките на конкурса „Проучване на националните културно-исторически ценности като част от европейското културно наследство и съвременни методи за тяхното съхранение“. Реализацията на проекта е 2007–2009 г. Той е насочен към реставрационните и дигиталните методи на съхранение на специалните сбирки в Народната библиотека, включващи славянски, ориенталски и други чуждоезични ръкописи, документи и периодика.

Негова непосредствена цел е разширяването и ускоряването на процеса на дигитализация на ценни и застрашени документи с доказана научна, историческа и образователна стойност в национален и европейски мащаб като начин за тяхното запазване и в същото време осигуряването на по-широк достъп до тях чрез електронни средства и преди всичко Интернет.

Проектът предвижда паралелното извършване на две основни дейности – реставрация на застрашени паметници върху хартиен носител и тяхното дигитализиране, както и дигитализиране на вече реставрирани паметници с ограничен достъп на ползване и на такива, чиято реставрация е затруднена по технически причини (ръкописи на пергамент и неподвързани томове).

До началото на 2008 г.беше закупено оборудване за направление „Консервация, реставрация и опазване на фондовете".

Резултати към момента.

Към момента общо12 GB информация, включваща дигитализирани книги, документи, изображения и техните систематизирани описания, е съхранена чрез специализираната система DocuWare.

По двата проекта до сега са дигитализирани, обработени и архивирани над 24732, в т. ч. ръкописи и архивни документи, снимки и портрети, карти, фотоалбуми и графични документи, а също така и читателски поръчки. В края на 2007 г. започна работа по дигитализиране на периодичния печат. Дигитализираните документи са описани и архивирани. През м. ноември 2007 г. дигиталните копия и описанията бяха пуснати в Интернет страницата на библиотеката. В сайта са представени над 3 000 единици. Дигитализираните документи се предоставят на този етап на свободен достъп. В бъдеще част от ценния архив ще продължи да се предоставя за свободен достъп, а останалата част, включваща детайлна информация и прецизно качество на материалите, ще се предоставя срещу заплащане. Това ще бъде възможно чрез националната система за електронни разплащания, която се разработва за е-правителството.

До сега са дигитализирани:

- от сбирката славянски ръкописи - над 7 500 с. страници ръкописи, 50 документа (Поппунчов сборник от 1796; Добрейшово евангелие от XIII в.; Енински апостол от XI в. Аргиров триор от XII в. и др.);

- от сбирката старопечатни и редки издания, 14 документа (Часословец на Яков Крайков и др.);

- от сбирките на Български исторически архив - над 2 800 с. архивни документи, портрети и снимки (тефтерчето на В. Левски; писма на Хр. Ботев; документи на революционни комитет в Букурещ; няколко кондики на общини - Търговище, Самоков и др.);

- от ориенталските сбирки - над 2500 с. (най-ранният ръкопис на арабски език – „Ал-Джами ас-сахих" на ал-Бухари; сборник от съчинения за изучаване на персийски език; няколко дефтери; османски регистър от района на Неврокоп и други видове единични документи);

- от сбирката Картографски и графични документи- над 300 с.;

- от фонда периодични издания -над 46 000 с.

Два други проекта вървят паралелно с проектите за дигитализация.

Проект TELPlus

(в рамките на Програма eContentPlus на Европейската комисия)

На този етап сме готови да представим дигитализираните и описани документи в в Европейската библиотека. Очакваните резултати са свързани с включването и активното ни участие в работата на Европейската библиотека; с оптимизиране работата по обработката на документалните потоци; с осигуряването на бърз достъп на потребителите до богатствата на Националната библиотека.

Проект „Виртуална библиотека – България“. I етап.
(Изграждане на Единна национална библиотечно-информационна система).

Проектът е с огромно национално значение. Той цели изграждане на Единна национална библиотечно-информационна система за библиотеките в страната и изграждане на Национален своден каталог на българската книжна продукция. Проектът ще съдейства за оптимизирането и икономическата ефективност в работата на българските библиотеки.

Този проект ни дава възможност да предоставим в Европейската библиотека националния каталог и дигиталната си библиотека и разширяване на възможностите за изграждане на съвременни системи за съхраняване на данните.

ЗАКЛЮЧЕНИЕ

Нашата амбиция и крайната ни цел е да се утвърди Националната библиотека като водеща национална институция по отношение на запазването, популяризирането и научното изследване на книжовното наследство, особено що се отнася до периода на Средновековието и края на Българското възраждане. За нас е от голямо значение, постигайки необходимото технологично ниво, да бъдем съпричастни в дейностите, свързани с разработването на Националната програма за дигитализиране на културното наследство на България..

Натрупано е критично количество дигитални копия от библиотеките, затова много се заговори за проблемите на дигиталните копия в националните библиотеки и библиотечните мрежи, достъпа до тях, широкото им разпространение, възможностите за коопериране между библиотеките в тази насока. Всички страни сериозно си поставят задачи за стратегията за дигитализация и дигиталните библиотеки, която включва проблеми на подбора, техническото осигуряване, финансирането и др. Европейската комисия осигурява средства в редица програми за изследвания за увеличаване на достъпа до културното наследство и дигиталното му съхраняване, за създаване на национални дигитални колекции и услуги, улесняващи многоезиковия достъп и употреба на културните материали. Специалистите познават различни платформи за дигитални библиотеки.

У нас на всички е известно, че няма стратегия или единна концепция. Това не значи, че не са направени опити в отделни библиотеки, и то успешни. Макар и късно, но държавната администрация се осъзна и вече в Министерството на културата е създадена междуинституционална работна група по дигитализация на културното наследство. След събиране на данни за проблема, групата си поставя задачите да предложи създаването на нормативна и инфраструктурна рамка; да се приемат и популяризират европейските стандарти в тази област; да се подготви националната програма за обучение и други задачи, свързани с дигитализацията. Първоначално ще се вземат решения на политическо равнище и ще има **национална концепция за дигитализацията на културното наследство в нашата страна.**

Rare and Valuable Collections in Bulgarian Libraries as a Part of the European Cultural Heritage and Leading Practices for their Preservation

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Редките и ценни колекции в българските библиотеки като част от европейското културно наследство и водещи практики за тяхното съхранение

Калина Иванова
Регионална народна библиотека „П. Р. Славейков" – Велико Търново

Петя Толева
Народна библиотека „Иван Вазов" - Пловдив

ABSTRACT

The project "Network of Regional Libraries for Preservation of Rare and Special Important Collections using New and More Effective Methods" was started in November 2006 by four big public libraries. It was financed by the Ministry of education and science by the Program "Study on national historic and culture legacy as a part of European culture heritage and advanced methods for preserving". The basic goal of the working teams in the libraries is to give publicity to the study, and to include it in the national union catalog of manuscripts and old printed books. Easier access and more information about the available funds of rare and valuable collections in Bulgarian libraries will be realized by building an electronic union catalogue and full text databases.

Keywords: Preservation; Digitization; Union catalog; Rare collections

РЕЗЮМЕ

През м. ноември 2006 г. четири големи обществени библиотеки стартираха Проекта „Мрежа на регионалните библиотеки за съхранение на редки и особено значими колекции чрез използването на нови и по-ефективни методи", финансиран от Министерството на образованието и науката по Програмата „Проучване на националните културно-исторически ценности като част от европейското културно наследство и съвременни методи за тяхното съхранение". Основната цел, която си поставят работните екипи на библиотеките, е да се даде гласност на изследването, което да бъде включено в изработването на национален своден каталог на ръкописите и старопечатните книги. Чрез изграждането на електронен своден каталог и пълнотекстови бази данни да

се предостави по-широк достъп и информираност за наличните фондове от редки и ценни колекции в българските библиотеки.

Ключови думи: *дигитализация; редки и ценни колекции; електронен своден каталог; пълнотекстови бази данни; консорциум*

„Процесът на дигитализация осигурява възможност за запазване на оригиналните артефакти в оптимални условия и в същото време представяне на техни дигитални еквиваленти пред публиката. В допълнение това ще бъде принос към разширяването на културната размяна по света.“

Благой Стефановски,
министър на културата на Република Македония

Основната мисия на библиотеките е възможно най-широкото разпространение на знания и информация за обществото, но читателите все по-често срещат проблеми с достъпа до информационните ресурси поради редица специални условия, които библиотеките поставят, за да могат да съхранят ценните си колекции от физическо унищожение или вандалско отношение към тях.

В условията на глобализация на обществото през 21 век е особено важно за всяка нация, етнос и регион да съхрани своята културно-историческа идентичност, с която да се гордеят идните поколения. Българските обществени библиотеки като модерни културни институти приемат за своя собствена мисия популяризирането на ценностите от културно-историческото ни наследство, както и културните достижения на съвременни личности от родния край.

През м. ноември 2006 г. четири големи обществени библиотеки стартираха Проекта „Мрежа на регионалните библиотеки за съхранение на редки и особено значими колекции чрез използването на нови и по-ефективни методи“, финансиран от Министерството на образованието и науката по Програмата „Проучване на националните културно-исторически ценности като част от европейското културно наследство и съвременни методи за тяхното съхранение“. За реализирането на проекта се учреди консорциум между Регионална народна библиотека „Петко Р. Славейков“ - гр. Велико Търново, Регионална народна библиотека „Иван Вазов“ – гр. Пловдив, Регионална библиотека „Емануил Попдимитров“ – гр. Кюстендил, Регионална библиотека „Петър Стъпов“ – гр. Търговище, и партньор в софтуерната реализация - фирма СофтЛиб ООД – гр. София.

Консорциумът е създаден да изгради и поддържа Електронен своден каталог на редки и особено значими колекции в регионалните библиотеки, със седалище гр. Велико Търново, 5000, ул. Иванка Ботева, 2. Библиотеките, които са членове на консорциума участват със следните колекции:

- Регионална народна бибилотека „Петко Р. Славейков“ – гр. Велико Търново – ръкописи и старопечатни книги (1802 г. – 1878 г);

- Регионална народна библиотека „Иван Вазов“- гр. Пловдив - редки и ценни издания;

- Регионална библиотека „Ем. Попдимитров“ - гр. Кюстендил - старопечатни книги (1802 г. – 1878 г.);

- Регионална библиотека „Петър Стъпов“ – гр. Търговище – звукозаписи от грамофонни плочи на ценни музикални произведения.

Желанието на работните екипи от библиотеките е да се даде гласност на изследването, което да бъде включено в изработването на национален своден каталог на ръкописните и старопечатни книги. Основната цел, която си поставят библиотеките чрез изграждането на сводния каталог, е да се предостави по-широка информираност за наличните фондове от редки и ценни колекции в българските библиотеки, а чрез „дигиталните“ библиотеки с пълнотекстови бази данни от ръкописи и старопечатни сбирки - бърз и лесен достъп до потребителите.

Внедряването на софтуерния библиотечен продукт e-lib-интегрирана система на модулен принцип за автоматизация на библиотечните дейности на фирма СофтЛиб унифицира електронното каталогизиране на редките, ценни и старопечатни фондове.

Работейки за изграждането и поддържането на електронния своден каталог, всяка една от библиотеките - партньори в консорциума, реализира индивидуален проект на регионално ниво.

Проектът „За изработване на ефективен и иновативен модел за съхраняване на редките и ценни издания в Пловдивската народна библиотека“ цели чрез въвеждането на специализирания модул e-lib на основата на CDS/ISIS за създаване на електронен каталог и описание на старопечатни, редки и ценни книги, да съхрани и опази редките и ценни старини от отдел „Специални сбирки“, постъпили в Народната библиотека от 1880 година до днес. След призива на директора на Народното просвещение Йоаким Груев за събиране от населението на старини, в библиотеката постъпват изключително ценни книги, като Слепченския апостол - ръкопис на пергамент от XII век, ценен среднобългарски паметник. В проекта е включен за реформатиране фондът „Редки и ценни издания“, в основата на който е „музейната библиотека“, обособена от дългогодишния директор на библиотеката Борис Дякович - сбирка с голяма национална стойност. Това са книги с различна форма, размери, начин на оформление, особености при отпечатването, ограниченост на тиража, номерирани издания, ценни и оригинални книги с посвещения, с автографи, книги с особено голяма ценност на съдържанието или уникални като издания.

Проектът „Съвременни подходи за проучване и популяризиране на книжовното културно-историческо наследство на Кюстендил“ на Регионална библиотека „Емануил Попдимитров“ – гр. Кюстендил, създава условия за проучване, опазване и популяризиране на фондовете от редки, ценни и старопечатни издания в други културни институти на гр. Кюстендил, като Регионален исторически музей „Акад. Й. Иванов“, държавен архив, църковна библиотека при храм „Успение Богородично“, училищни библиотеки при основни училища и професионални гимназии. Създадени са благоприятни условия за проучване на книжовното културно-историческо наследство и ефективно опазване на фондовете от редки, ценни и старопечатни издания и тяхното популяризиране сред ученици, студенти, преподаватели и специалисти посредством използването на специализирания библиотечен софтуерен продукт, който в процеса на осъществяване на проекта бе доразработен и усъвършенстван за работа, по-късно инсталиран за ползване при изграждането на електронния своден каталог на редки и особено значими колекции в регионалните библиотеки. Чрез създадената автоматизирана междуинституционална библиотечно-информационна мрежа се повиши капацитетът на училищните библиотеки. Те станаха по-привлекателни за учениците читатели. С осигурения непрекъснат достъп до ресурсите на Интернет постепенно се превърнаха в основно място за четене и информиране и по въпроси извън учебния процес. Наличието на компютър и Интернет коренно промени отношението и на учениците, и на преподавателите към училищната библиотека. Тя се превръща в информационен център, в място, което облекчава ориентацията им в огромния информационен поток.

Регионална народна библиотека „Петко Р. Славейков“ – гр. Велико Търново, участва с проект „За духовните ценности на регион Велико Търново: Електронен своден каталог на ръкописи и старопечатни книги в библиотеките в област Велико Търново“. Проектът се фокусира върху редките и ценни колекции на библиотеките от област Велико Търново, които се ползват от читателите при специален режим и само за научни цели. Участващите в него са ръководени от идеята да се реализират окончателно дългогодишните изследвания на библиотечните специалисти по събирането и каталогизирането на информацията за специалните фондове в библиотеките от великотърновски регион и да се предоставят на научните среди нови информационни ресурси.

Повечето постъпления от старопечатни книги са придобити през периода 1932-1942 г. Имената на дарителите са публикувани в първия годишник на Народна библиотека – Велико Търново. Стремежът на тогавашното библиотечно ръководство е бил да доближи великотърновската библиотека относно старите фондове до нивото на Народните библиотеки в София и Пловдив и да я превърне в трето национално книгохранилище. Сред даренията преобладава учебникарска литература, книги с религиозна тематика, часослови, месецослови, евангелия, преводна художествена литература, сборници с фолклорни материали и др. Книгите от старопечатния фонд са наредени според номерацията на „Опис на старопечатните български книги“ от проф. Погорелов. За създаването на сводния каталог на старопечатните книги в региона е направено проучване от студенти дипломанти. „De visu“ са прегледани фондовете на всички големи читалищни библиотеки в региона, Епархийската библиотека, музейни сбирки и др. Проучват се и манастирските сбирки на Преображенския манастир и на манастир „Св.св. Петър и Павел“, за да бъдат включени в електронния своден каталог. Целите на проекта са за опазване на книжовното културно-историческо наследство в библиотеките от Великотърновски регион като част от националното книжовно-документално наследство на страната ни. Предоставяне за по-широк достъп и информираност за наличните фондове от редки и ценни колекции в библиотеките.

Приносът на Регионална библиотека „Петър Стъпов“ в гр. Търговище е в издигането и утвърждаването на авторитета на творците от родния край в национален и общоевропейски план, реализиран чрез Проект „Съхраняване богатството от произведения на изкуството в библиотеката за бъдните поколения“.

С навлизането на новите технологии старите звукозаписи отмират и отстъпват място на новото, ефективното. С предлагането на ценните музикални произведения на CD и DVD носител се подпомага учебният процес. Младите музиканти имат възможността да чуят в оригинал едни от най-великите изпълнители и най-големите шедьоври на всички времена. Библиотеката развива образователната си функция, като спомага за оформяне на музикалния вкус на слушателите от всяка възраст и за естетическото възпитание на подрастващите. В настоящия момент отдел „Изкуство“ на библиотеката предлага филмирани варианти на класически литературни произведения, издържали проверката на времето. Амбицията на работещите в библиотеката е да се получат същите позитивни оценки и с предлагането на качествени звуконосители с най-доброто от фонда на библиотеката. Жителите на град Търговище проявяват интерес към историята на града и региона и затова в отдел „Краезнание“ се съхраняват на аудионосител интервюта с видни дейци, които споделят за своя живот, творчество и постижения. При прехвърлянето на записите на качествен носител те остават във времето и служат за патриотичното възпитание на младото поколение - да знаят историята на родния си град и видните творци, живели и работили в него.

Техническото обезпечаване на работата по проекта с модерна цифрова аудио-визуална апаратура и професионален софтуер за саунд-редакция е предпоставка и гаранция за качеството на извършваните бъдещи работни процеси по същинската част от изпълнението му.

Една от конкретните цели на РБ „Петър Стъпов“ – Търговище, е и обособяване и оборудване на зала за експозиция на произведенията на изобразителното изкуство, където да се съхраняват библиотечните колекции от картини на известни художници в национален мащаб, каквито са Румен Скорчев, проф. В. Вълев, В. Голешев и др.

Проектът „Мрежа на регионалните библиотеки за съхранение на редки и особено значими колекции чрез използването на нови и по-ефективни методи“ е с двугодишен период на изпълнение (м. ноември 2006 г. – м. декември 2008 г.), през който се организираха 6 работни срещи на консорциума, с домакинстване на всяка една библиотека партньор. На срещите се представиха и популяризираха пред обществеността и библиотечната гилдия конкретните проекти, набелязваха се последващите дейности и се отчитаха постигнатите резултати. Проведоха се 2 традиционни семинара във Велико Търново и Пловдив на ползвателите на интегрираната библиотечно-информационна система E-lib на фирма СофтЛиб.

За изграждането на пълнотекстовите бази данни и за поддържането на своден електронен каталог бе необходимо ново техническо оборудване и библиотечен софтуер, които бяха закупени с финансирането от Министерството на образованието и науката чрез фонд „Научни изследвания“.

Софтуерната система e-Lib на фирма „СофтЛиб“ работи в среда на Windows (всички версии) и в мрежа – Novell и Windows, служи за представяне на бази данни, създадени с интегрираната библиотечно-информационна система e-Lib в Интернет/ интранет среда. Поради своята универсалност този софтуер е приложим за представяне на специализираните фондове в електронни каталози. Мощен и универсален, (E-lib) доказва качествата си и в дистрибутива i-Lib, с който е изграден интернет варианта на сводния каталог (http://ilib.libraryvt.com).

Като председател на консорциума, Регионална библиотека – Велико Търново осигури средства чрез безлихвен заем в размер на 15 000 лв. от Община Велико Търново, чрез който закупи мощен сървър, необходим за поддържане на електронния своден каталог в интернет.

В регионалните библиотеки в Кюстендил, Пловдив и Велико Търново завърши изграждането на локалните електронни каталози. При въвеждането на информацията е използвана базата данни на Народна библиотека „Св. св. Кирил и Методий“: „Български старопечатни книги 1806-1878“, разработена от отдел „Ръкописи и старопечатни, редки и ценни издания“, чрез която се унифицира библиографското описание.

За основен библиографски източник е определен Репертоара на българската възрожденска книжнина на Маню Стоянов. В поле „забележка“ са посочени всички особености, характерни за притежаваните екземпляри в отделната библиотека като приписки, печати, автографи, повредените екземпляри „без начало“ или „без край“, като се уточняват и инвентарните номера, за които се отнасят забележките. Включени са всички имена на лица, свързани с изданието - освен автори, съставители, преводачи са посочени и всички възрожденци, имащи някаква заслуга за издаването на определено заглавие, като дарители, спомоществователи, издатели и т.н. Въведен е езикът, а в случаите, когато изданието е на няколко езика, са изброени всички. Посочено е, когато изданието е с църковнославянски букви. Отразени са инвентарните номера на притежание от съответната библиотека и номерата на описанията от двата библиографски източника на Маньо Стоянов и Валерий Погорелов.

Стремежът на работните екипи в отделните библиотеки бе по възникналите въпроси и разногласия относно издание, описание на поредност, брой страници, година на издаване и др. и след извършване на необходимите справки и уточнявания на всички елементи, да се постигне максимална пълнота и точност на библиографската информация.

При изграждането на пълнотекстови бази данни на редките и ценни колекции в участващите библиотеки се използва най-удачният метод на реформатиране на настоящия етап - дигитализацията. Дигитализираните образци са с много по-високо качество от микрофилмираните или фотокопираните, могат да се репродуцират многократно без загуба на качество или разрушение след употреба.

За подобряване удобството при работа с дигитализираните масиви се използва софтуерът DjVu на компанията LizardTech Inc. – надеждна и перспективна технология, чийто компресиращ алгоритъм осигурява запазване качеството на сканираните изображения при драстично намаление на големината на получения файл - от порядъка на стотици пъти.

Това дава възможност така обработеният фонд да е леснодостъпен в мрежова среда, включително през интернет, както и да се ползва безпроблемно на по-стари компютри. Факт, който не е за пренебрегване при прогресивно увеличаващия се обем на електронно съхраняваната информация.

Създаденият електронен своден каталог на редки и особено значими колекции и изграждането на пълнотекстови бази данни от ръкописните и старопечатни библиотечни сбирки произтича от необходимостта да се потърсят начини за запазването, съхранението и едновременно с това на популяризирането на уникалните колекции, притежавани от българските библиотеки.

Сводният каталог е изключително ценен, защото дава възможност на библиотечните специалисти и научни работници да бъдат информирани къде се намира съответното заглавие и в колко екземпляра. Постигнато е унифицирано каталогизиране на редките, ценни и старопечатни фондове и е осигурен широк достъп до тях чрез въвеждане на специализиран софтуерен продукт.

Дигитализираните ръкописи и старопечатни книги са достъпни посредством специализирани читателски места в библиотеките или чрез Интернет и по този начин отпада необходимостта от физически контакт с ценния ръкопис или старопечатна книга. Едновременно с това се разширява кръгът от български и чуждестранни читатели, които се интересуват от писменото културно-историческо наследство на България.

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Digitalization of Cultural Heritage and Student Education in the Library and Information Sciences Department at the Sofia University "St. Kliment Ohridski"

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Дигитализация на културното наследство и обучението на студентите от специалност „Библиотечно-информационни науки" при Софийски университет „Св. Кл. Охридски"

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ABSTRACT

The republic of Bulgaria is one of the first countries to have ratified the Convention for Protection of the World Cultural and Natural Heritage. The fact that seven cultural monuments and two natural reserves are included in the World Heritage List of UNESCO during the 1970s speaks for the serious governmental and institutional precautions adopted for the protection of the heritage of the country. The invention and implementation of new digital technologies for the documentation of heritage create circumstances for easier work with the massive amount of information in this sphere. The digitization of cultural heritage has the following advantages: fast documentation of the different kind of monuments – library, archive, movable and immovable monuments, including museum exhibits, etc.; common usage of the created databases by the museums, the police, and customs, aiming to prevent illegal traffic of cultural values; creation of three-dimensional models of unique objects, creation of virtual museums, etc. Highly skilled professionals need to be educated for the execution of the national program for digitalization of the cultural heritage in Republic of Bulgaria. The curriculum of the Library and Information Department will include theoretical knowledge as well as practical experience in the digitalization of the library heritage and museum monuments. Through development of projects in this sphere the LIS students will receive the necessary professional qualification in the sphere of digitization of the Bulgarian cultural heritage.

Keywords: Cultural heritage; Digitization; LIS education

РЕЗЮМЕ

Република България е една от първите страни, ратифицирали Конвенцията за опазване на световното културно и природно наследство. Фактът, че седем културни паметника и два природни резервата са включени в листата на световното наследство на ЮНЕСКО още през 70-те години на XX в., говори за сериозните правителствени и институционални мерки, взети за опазване на цялостното наследство в страната. Създаването

и приложението на новите дигитални технологии за документиране на наследството създават условия за по-лесно боравене с огромните масиви от информация в тази област. Дигитализацията на културното наследство има следните предимства: бързо документиране на различни видове паметници – книжовни, архивни, движими и недвижими паметници, включително музейни експонати и др.; едновременно използване на създадените бази данни от музеи, полиция, митници с цел предотвратяване нелегалния трафик на културни ценности; създаване на триизмерни модели на уникати, създаване на виртуални музеи и т.н. За да се осъществи на практика националната програма за дигитализация на културното наследство в Република България, е необходимо своевременно да се подготвят висококвалифицирани кадри. Това налага в учебния план на специалност „Библиотечно-информационни науки" да се включат дисциплини, даващи теоретични знания и практически опит в дигитализацията на книжовни паметници и музейни ценности. Чрез разработването на проекти в тази област, в най-скоро време студентите от специалност БИН ще получат необходимата професионална квалификация в областта на дигитализацията на българското културно наследство.

Ключови думи: културно наследство; световно културно наследство; световно културно и природно наследство; дигитализация на културното наследство

Република България е една от първите страни, ратифицирали Конвенцията за опазване на световното културно и природно наследство. Фактът, че седем културни паметника и два природни резервата са включени в листата на световното наследство на ЮНЕСКО още през 70-те годи на XX в., говори за сериозните правителствени и институционални мерки, взети за опазване на цялостното наследство в страната.

Създаването и приложението на новите дигитални технологии за документиране на наследството създават условия за по-лесно боравене с огромните масиви от информация в тази област. Дигитализацията на културното наследство има следните предимства: бързо документиране на различни видове паметници – книжовни, архивни, движими и недвижими паметници, включително музейни експонати, произведения на изкуството и др.; едновременно използване на създадените бази данни от музеи, полиция, митници с цел предотвратяване нелегалния трафик на културни ценности; създаване на триизмерни модели на уникати, създаване на виртуални музеи и т.н.

Според българското законодателство паметници на културата са: произведения на човешката дейност, които документират материалната и духовната култура и имат научно, художествено и историческо значение или са свързани с историческите и революционните борби и събития, с живота и дейността на видни обществени, културни и научни дейци.

I. ДОКУМЕНТИРАНЕ НА БИБЛИОТЕЧНИТЕ, АРХИВНИТЕ И МУЗЕЙНИТЕ ФОНДОВЕ ЧРЕЗ ДИГИТАЛИЗАЦИЯ

Първата и основна задача при дигитализирането на паметници на културата е създаването нов тип документация. Документирането на библиотечните, архивните и музейните фондове чрез дигитализация е дълъг и трудоемък процес. Той е свързан с изразходването на огромни средства за набавянето на компютърна и дигитална техника, софтуер и обучаването на кадрите, изпълняващи дигитализацията на фондовете. В различните културни институти този процес е на различен етап от развитие.

Най-успешно тя се развива в областта на книжовното ни наследство. В началото на 2006 г. Народната библиотека „Св. Св. Кирил и Методий" започва реализацията на проекта „Дигитален център на Националната библиотека". Основната цел на проекта е дигитализация на забележителни книжовни паметници от колекциите на славянски ръкописи, старопечатни книги, архивни документи, снимки и др. Първоначално са дигитализирани над 150 документа.

От края на 2006 г. стартира проектът „Дигитални архиви и документи: популяризиране, изучаване, съхранение". Той се реализира през периода 2007-2009 г. и е насочен към реставрационните и дигитални методи на съхранение на специалните сбирки на библиотеката. Общо по двата проекта до сега са дигитализирани 24 732 документа – ръкописи, архивни документи, снимки, карти и др. Сред най-забележителните дигитални документи са: Енинския апостол от XI в., Аргиров триод от XII в, Поппунчов сборник от 1796 г., тефтерчето на В. Левски, писма на Хр. Ботев, документи на БРЦК в Букурещ и много други.

От ноември 2007 г. над 3 хил. дигитализирани документа са публикувани на уебстраницата на Народна библиотека „Св. Св. Кирил и Методий" за свободен достъп. НБКМ е готова да предостави дигитализирани и описани документи в Европейската библиотека.

Развива се и дигитализирането на архивни документи, носещи информация за важни исторически събития и процеси, както и за живота на изтъкнати личности. Главно управление на архивите години наред провежда системна програма за дигитализирането на архивните фондове. Последният забележителен успех е създаването на дигитална изложба, достъпна в световната мрежа, посветена на 100-годишнината от провъзгласяването на независимостта на България. В нея са включени 86 пълнотекстови документа, свързани с това историческо събитие.

II. ДИГИТАЛИЗАЦИЯТА И ПРЕВЕНЦИЯТА НА НЕЛЕГАЛНИЯ ТРАФИК НА КУЛТУРНИ ПАМЕТНИЦИ

Най-често обект на посегателства са произведенията на изкуството. Ето защо дигитализирането им е не само ценно като документ, но и като превенция против нелегалния трафик на произведения на изкуството. Създаването на бази данни, в които се включват всички ценни музейни предмети, дават възможност при посегателство моментално да се известят граничните органи и Интерпол, като им се предоставя дигиталният материал за идентифициране на паметника. Така по най-бързия начин може да се пресече пътят на нелегалния трафик на произведения на изкуството и музейни ценности.

Тъй като произведенията на изкуството са твърде разнообразни, такива са и способите за тяхната дигитализация. Едни са техниките за дигитализация на картини и графика, и съвсем различни за произведения на приложното изкуство.

В България най-изостава дигитализацията на музейните фондове. Основните проблеми са технологични, организационни и финансови. От години се говори за разработването и прилагането на единни стандарти и софтуер за дигитализацията на музейните ценности, но за съжаление все още всичко е в сферата на „добрите намерения".

През 1998 г. Националният исторически музей създаде първия у нас CD-ROM, представящ цялостно постоянната си експозиция в Съдебната палата. Той беше изключително успешен първи дигитален музеен продукт. Чудесният английски превод го направи незаменим спомен за чуждестранните посетители в музея. От самото си създа-

ване дискът се използва успешно в преподаването по музеология в Софийския университет „Св. Климент Охридски“. Той се радва на подчертан интерес и при изнасянето на лекции за развитието на българското музейното дело в чужбина. Технологично дискът се разработи от фирма „ТехноЛогика“ – София.

Чрез реализирането на различни проекти в областта на дигитализацията на музейните фондове и експозиции редица музеи създават разнообразни дигитални продукти на различни носители. Един от най-ярките нови примери в това отношение е DVD диска на Националния военно-исторически музей, посветен на 130-годишнината от Руско-турската освободителна война 1877-1878 г. Чрез него се представя цялостно юбилейната изложба „Войни на свободата“. Тя е създадена с общите усилия и експонати на Националния военно-исторически музей в София, Държавния исторически музей на Русия, Музейното обединение „Музей за история на Москва“, Военния музей на Сърбия, Народната библиотека „Св. Св. Кирил и Методий“ и Държавна агенция „Архиви“ – България. Във връзка със своята 90-годишнина Националният военно-исторически музей издаде първия си CD диск, представящ 90 свои реликви.

Още през 2000 г. целево се заделят средства за създаване на уебстраници на музеите и с това се полагат основите на дигитализацията в музеите. В Стара Загора се провеждат няколко национални съвещания по проблемите на компютризацията в музеите и дигитализацията на музейните фондове. За съжаление всеки музей разполага с различна дигитална техника и различен софтуер за нейното приложение. Така досега създадените бази от данни няма да са съвместими и да се използват в бъдеще на национално ниво.

III. ДИГИТАЛИЗАЦИЯТА НА КУЛТУРНОТО НАСЛЕДСТВО И ОБУЧЕНИЕТО НА СТУДЕНТИТЕ ОТ СПЕЦИАЛНОСТ „БИБЛИОТЕЧНО-ИНФОРМАЦИОННИ НАУКИ“ ПРИ СОФИЙСКИЯ УНИВЕРСИТЕТ „СВ. КЛИМЕНТ ОХРИДСКИ“

В специалност „Библиотечно-информационни науки“ на Софийския университет „Св. Климент Охридски“ е създаден Студентски научноизследователски клуб „Виртуален музей“. Една от неговите задачи е да обучава заинтересуваните студенти от методите на дигитализация на наследството. През 2005 г., на летния международен студентски семинар в Литва беше представен първият CD- ROM „Български виртуален музей“. В него бяха представени дигитализирани музейни предмети от музеите в Пловдив, Габрово, Националния исторически музей, Националния етнографски музей и Боровското съкровище. Дизайнът и подборът на дигиталните кадри е на студента Петър Миладинов. Две години по-късно Ивайло Тонев оформи вторият CD-ROM „Български виртуален музей II“, който беше предоставен и в световната мрежа (http://freeplace.info/cprog/virtmus2/main/virtmus.htm). В него са включени дигитализирани експонати от музеите в Бургас, Габрово, Велико Търново, Пазарджик, Търговище, Малко Търново, Националния политехнически музей и Националния военно-исторически музей. През настоящата учебна година (2008/2009) студентите от Научноизследователски клуб „Виртуален музей“ ще съсредоточат вниманието върху някои музеи в чужбина. Така ще се представи на уебстраницата на клуба в интернет частица от богатото световно културно наследство.

За да се осъществи на практика националната програма за дигитализация на културното наследство в Република България, е необходимо своевременно да се подготвят висококвалифицирани кадри. Това налага в учебния план на специалност „Библиотечно-информационни науки“ да се включат дисциплини, даващи теоретични знания и практически опит в дигитализацията на книжовни паметници и музейни ценности. Чрез разработването на проекти в тази област, в най-скоро време студентите от специалност

БИН ще получат необходимата професионална квалификация в областта на дигитализацията на българското културно наследство. Първата конкретна стъпка в това отношение е въвеждането на дисциплина „Дигитализация на книжовното наследство" в магистърската програма „Управление на информационните ресурси". Надяваме се на добро партньорство с Дигиталния център на Националната библиотека за практическите занимания на студентите.

Европейската комисия създава добри условия за бъдещото дигитализиране на културното ни наследство. Обнадеждаващо е решението на Министерството на културата да се създаде междуведомствена комисия за дигитализация на културното наследство. Необходимо е своевременно да се разработят и утвърдят стандарти за дигитализацията на различните видове паметници. За тази цел трябва да се закупи или създаде лицензиран софтуер. Да се проведат курсове за квалификация на библиотекари, архивисти и музейни уредници за работа със съответния софтуер и техника при дигитализацията на фондовете в различните културни институти. Катедра „Библиотекознание, научна информация и културна политика" може да стане едно от основните звена за обучение на специалисти в областта на дигитализацията на културното наследство. Преподавателите от Софийския университет „Св. Климент Охридски" са готови да отговорят с необходимите професионални компетентности на предизвикателствата на нашето съвремие.

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The Right to Access to Information versus Other Rights: Moral Dilemmas of Competing Values

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Сравнение между правото на достъп до информация и други права: Морални дилеми на конкуриращи се ценности

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ABSTRACT

Is it possible to build a global ethical framework for the library and information profession based a common core of values that provide the basis for library and information services throughout the world? What if the core contains values which at times appear to be in conflict with each other? How can conflict between two key library values be resolved? What if one of these values is the "right to access to information"? Kidder (1995) identifies two types of dilemma paradigms: "right-versus-wrong" and "right-versus-right". He defines "right-versus-right" dilemmas as those that "however complex and varied, typically reduce themselves to one or more of the following dilemma paradigms: Truth versus Loyalty, Self versus Community, Short Term versus Long Term and Justice versus Mercy." The authors suggest that Kidder's concept of dilemma paradigms may be used to analyze and resolve conflicts between the right to access to information and other rights. They introduce examples of such conflicts.

Keywords: Ethics; Librarians; Access to information; Values; Rushworth Kidder; Dilemma paradigm

РЕЗЮМЕ

Възможно ли е да се изгради основана на общо ядро от ценности световна етична рамка на библиотечно-информационната професия, която да представлява база за библиотечното и информационното обслужване навсякъде? Какво ще стане, ако в ядрото се съдържат ценности, които понякога изглеждат в противоречие помежду си? Как може да се разреши противоречието между две основни библиотечни ценности? Какво ще стане, ако една от тези ценности е „правото на достъп до информация"? Kidder (1995) определя два вида модели за дилеми: „правилно/неправилно" и „правилно/правилно".

Той определя дилемите от рода „правилно/неправилно" като такива, които „макар да са сложни и разнообразни, обикновено се свеждат до един или повече от следните модели за дилема: Истина/Лоялност, Личност/Общност, Краткотрайност/Дълготрайност и Справедливост/ Милосърдие". Авторите предполагат, че концепцията на Kidder за модели за дилеми може да се използва за анализиране и разрешаване на противоречието между правото на достъп до информация други права. Те посочват и примери за подобни противоречия.

Ключови думи: Етика; библиотекари; достъп до информация; ценности; Rushworth Kidder; модел за дилеми

INTRODUCTION

Is it possible to build a global ethical framework for the library and information profession based a common core of values that provide the basis for library and information services throughout the world? What if the core contains values which at times appear to be in conflict with each other? How can conflict between two key library values be resolved? What if one of these values is the "right to access to information"?

LIBRARIANS' VALUES

The literature reveals two methods used to identify a common core of library values: studies of librarians' values and comparisons of professional codes of ethics. Some suggest that information professionals are a diverse group and that it is not possible to identify a single set of values held by all (Kirk and Post-Anderson, 1992; Berleur and Brunnstein, 1996). Others (Hauptman, 2002; Stichler and Hauptman, 1998; Devlin and Miller, 1995; Baker, 1992; Rubin, 1991; Ford, 1998; Hisle, 1998; Symons and Stoffle, 1998; Koehler and Pemberton, 2000) maintain that differences are superficial and that information professionals do hold a common set of values that include some or all of the following:

- Equality of access to information
- Intellectual freedom
- Confidentiality/privacy of patron records
- Intellectual property rights
- Professional neutrality
- Preservation of the cultural record

The same values occur in other studies. In three international surveys, Dole, Hurych and Koehler (Dole and Hurych, 2001; Dole, Hurych and Koehler, 2000; Koehler, Hurych, Dole and Walls, "Ethical Values," 2000) asked library and information professionals to rank the following core values:

- Equality of access to information
- Intellectual freedom
- Confidentiality/privacy of patron records
- Copyright/fair use
- Professional neutrality
- Preservation of the cultural record
- Literacy

- Cultural diversity
- Information literacy
- Diversity of opinion
- Service to the patron

The highest ranked values were service to the patron, intellectual freedom, preservation of the cultural record, and equality of access to information. Vaagan and Holm (2004) replicated the study in Norway using survey instrument and obtained similar results. None of these studies used the term "right to free access to information," but the concept is present in two highly ranked key values: equality of access to information and intellectual freedom.

CODES OF ETHICS

Comparisons of codes of ethics developed by library and information science associations reveal that all contain the key values that make up the "right to free access to information": namely, equality of access and intellectual freedom. These comparisons include Koehler's and Pemberton's (2000) analysis of 37 codes of ethics in library and information science and the International Federation of Library Associations (IFLA) Committee on Free Access to Information and Freedom of Information (FAIFE) survey of codes of ethics from 34 national library associations. The results of the FAIFE survey were analyzed by Vaagan (2002) and the codes themselves are posted at the IFLA Web site (www.ifla.org/faife/ethics/codes.htm). Vaagan found that, in spite of cultural differences, the codes all contain similar key elements. Shachaf (2005) conducted a comparative analysis of codes of ethics of professional library associations in 28 countries.

RIGHT VERSUS RIGHT DILEMMAS

The "right to free access to information" encompasses two key values ranked highly in previous studies: the equality of access to information and intellectual freedom. Trushina (2004) and others have raised the question of what happens when this right to free access to information comes in conflict with other "rights" or core values such as the confidentiality of the patron record or with governmental (USA Patriot Act) and technological barriers (Internet filters) intended to protect the common good?

There have been studies of the conflict between the right to access to information and protection of the common good. In his classic study, Hauptman (1976) visited 13 academic and public libraries and asked for information on how much of the explosive cordite was needed to blow up a normal-size suburban house. He concluded that none of the librarians he consulted were aware that they were making an ethical decision. Juznic et al. (2001) studied the right to access to information on "ethically disputed topics" (suicide, necrophilia and photographs/pictures of corpses) in Slovenian public libraries. They too concluded that the librarians did not appear to see themselves as facing any ethical dilemmas. Harrison (1997) discussed the conflict between the right to access to information and community values in two Canadian public libraries in wake of two local sex-related murders.

KIDDER'S DILEMMA PARADIGM

Kidder (1995), founder of the Institute for Global Ethics (IGE), introduced a process for ethical decision making that could be adopted by library and information profession. He identifies two types of dilemma paradigms: "right-versus-wrong" and "right-versus-right".

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Kidder uses dilemma paradigms to translate complex philosophical issues into practical issues for making tough choices between what are usually two "right" values.

The "right vs. wrong" choices are not true ethical dilemmas, but simply decisions in which we are tempted to do what we know is not right. According to him, if something is clearly morally wrong, there is no real dilemma. "Right versus right" choices, however, are genuine ethical dilemmas where the two right core values are pitted against each other. Kidder defines "right-versus-right" dilemmas as those that "however complex and varied, typically reduce themselves to one or more of the following dilemma paradigms: Truth versus Loyalty, Self versus Community, Short Term versus Long Term and Justice versus Mercy." Kidder's dilemma paradigm outlines a series of steps to identify and resolve right versus right dilemma.

Step One: Identify the Nature of the Dilemma

Kidder applies the following five tests to identify a right versus right dilemma:

1. The Legal Test. Is the choice against the law? If so, this is a legal question, not a moral one.

2. The Professional Standards Test. Is the choice consistent with the standards of the profession? If one were to make this choice in the presence of his/her colleagues, what would they say or do?

3. The Gut-Feeling Test. Does this choice "smell"? Does it feel wrong deep within our gut? Often one's intuition can select right from wrong, even before the brain can think it through.

4. The Front Page Test. How would a person feel if his/her decision were headlined on the front page of the local newspaper? What would his/her family think? What would his/her friends think? How would everyone else in the community react?

5. The Role Model Test. If a person one respects highly had to make the decision that is about to be made, what would he or she do?

If a potential action fails one or more of these tests, it is a right-versus-wrong issue and not an ethical dilemma. If the case, however, appears to be a moral dilemma, the next step is what Kidder calls "ethical analysis".

Step Two: Ethical Analysis of the Dilemma

This involves asking such questions as:

1. Whose problem is it? Who is the actor?

2. What are the key facts?

3. Do the choices pass the five rights versus wrong tests above?

4. What is the dilemma? What are the two competing rights?

5. Which values from library codes of ethics are involved?

Step Three: Identify the Paradigm

Kidder suggests that right-versus-right ethical dilemmas generally fall into one or more of the following categories:

1. Truth versus loyalty. (Honesty versus commitment, integrity versus responsibility).

2. Individual versus community. (Self versus "them", us versus others, smaller group versus larger group).

3. Short term versus long term. (Now versus then, immediate needs/desires versus future goals).

4. Justice versus mercy. (Fairness versus compassion, equity versus empathy).

Step Four: Resolution and Application of Decision Principles

Kidder has identified three *decision principles* or ways of resolving ethical dilemmas. The principles are drawn from the traditions of moral philosophy. He suggests applying all three before making a final decision. These three principles he labels:

1. *Ends-based thinking* known as utilitarian or "Do whatever produces the greatest good for the greatest number."

2. *Rule-based thinking* usually associated with Kant, and called "the categorical imperative": "Follow only the principle that you want everybody else to follow" or "Act in such a way that your actions could become a universal standard."

3. *Care-based thinking* known also as "reversibility" follows the Golden Rule that is central to the world's great religions. It asks to put oneself in another person's shoes. "Do to others as you want them to do to you."

Kidder maintains that his paradigm dilemma method cuts through mystery, complexity and confusion and is able to reduce even elaborate and multifaceted dilemmas to common patterns. A dilemma then becomes a manageable problem with strong resemblance to many other problems and amenable to analysis.

APPLICATIONS OF KIDDER'S DILEMMA PARADIGM

Baker (1997) analyzed Kidder's method and adapted it for use in media ethics classes. McDonald (1989) suggested that library education should not merely teach ethics or attitudes in the abstract, but should also present concrete situations, real and simulated, to help students examine their commitment to expressed values and how these values translate into behavior. She maintained that Library and Information Science (LIS) students need to have the opportunity to analyze competing values and the implications of actions. LIS faculty, such as Baxter at Mansfield State University, use the method to teach ethics to LIS students. Other LIS faculty, such as Zimmerman (University of South Carolina) and Carbo (University of Pittsburgh), incorporate Kidder's ethical reasoning processes into the ethics curriculum. Members of the American Library Association's Committee on Professional Ethics (COPE) and Intellectual Freedom Committee (IFC) went through a joint ethics training session based on Kidder' process in March 2008 and agreed with McDonald that Kidder's method of ethical decision-making would be a valuable tool for helping LIS professionals translate values into behavior. COPE adopted Kidder's model for an ALA association-wide ethics education initiative to be launched at the ALA Midwinter Conference in Denver in January of 2009.

LIBRARY SCENARIOS

Kidder's concept of dilemma paradigms may be one way to analyze and resolve conflicts between the right to access to information and other rights. The following scenarios illustrate such conflicts and will be analyzed by the dilemma paradigm method worksheet (Appendix 1) during the presentation.

1.   Jennifer works in a large public library in an urban area. Like many public libraries, Jennifer's library faces the problem of the homeless. She knows that the homeless have as much right to visit the library and use its services as other patrons, but the homeless often create a situation whereby Jennifer knows they are driving the other patrons away. She has noticed that usually their dress and body odor is enough to scare others away, but their behavior is also a problem. And she reasons that the patrons scared away are often the library's "best" customers, the ones she wants to serve. In this case, are Jennifer and the other librarians acting correctly when they serve the homeless who have every right to do so, at the expense of losing business and patrons?

2.   Michael is the director of Information Technology at the library of small religious college in a small rural community. Of the 20 public access computer terminals in the library, he has set up only two to be accessible to the general public or community user, without user I.D and passwords. He says that reason for restricting access to the other terminals is to make them available for library research rather than for games or viewing objectionable materials. The library staff disagree with him and believe that all terminals should be available to provide all users with unfettered access to information. Who is right?

3.   Arthur is the director of a medium-sized university library in the United States. Right after the September 11, 2001, attack, a FBI agent approached the Reference Desk and asked if the library, as a depository for U.S. government documents, had a copy of a certain CD that, according to him, gave very specific details of water supply systems (e.g. reservoirs) in various states. He indicated that, if the library owned a copy, he wished to "borrow" it so it would not be available to the public. Arthur himself happened to be covering the Reference Desk when the FBI agent came in. He checked the catalog, discovered that the library did not have a copy, and that was that. However, Arthur later admitted that if he had found a copy in the collection, he would have given it to the agent. His reasoning was that, in the immediate aftermath of September 11th, no one really knew whether September 11th was or was not part of a concerted attack on the U.S. In this situation Arthur felt that his obligation to "protect" and preserve his library's collection was, temporarily outweighed by his "right" desire to do whatever little he could to contribute to national security. He admitted that he knew that some members of the library profession would fault him for even considering the option of removing public information from the collection and placing a barrier to the right to access to this information. He says that he acted according to this conscience at the time, and now that a number of years have gone by, he is still comfortable with it.

4.   Anna is the head of the Education (Pedagogy) Library at one of the nation's largest and most prestigious private research universities. Within the past year, a doctoral student completed a dissertation concerning women's education in a country noted for its repressive regime and its repression of women's rights, especially access to education. The disclosure of the information in the dissertation could potentially compromise both the author's ability to conduct additional studies and, more importantly, the safety of family still in the country and of people mentioned within the text. The dissertation is, therefore, being housed in the Education Library without a catalog record and without user access. This will remain the status quo for an indefinite term. Anna knows of the dissertation. She is torn between respecting the author's need and providing potential researchers with access to the information contained in the dissertation.

CONCLUSIONS

The analysis of the scenarios during the presentation will demonstrate that the conflict between the right to access to information and other library values is a right versus right dilemma and that Kidder's dilemma paradigm method may be used to analyze conflicts between

this right and other values. This analysis highlights the complex nature of dilemmas faced by library and information professionals. The authors recommend more research on the application of Kidder's dilemma paradigm to authentic library scenarios. They wish to thank Nancy Zimmerman and ALA COPE for introduction to Kidder's method.

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APPENDIX
Dilemma Paradigm Worksheet

Step 1. Awareness: Is this a question of ethics? _____

_____

Step 2. Actor: Whose dilemma is this? _____

_____

Step 3. What Happened? What are the facts of the situation? _____

_____

Step 4. Is this a question of Right versus Wrong? _____

Apply the Five Tests ▼

YES   NO

*Choice 1 ▼ Choice 2_*

- **Is it legal?**
- **Does it meet professional standards?**
- **Does it feel right?**
- **Would it be okay to see on the front page of a newspaper?**
- **Would my role model do it?**

If "Yes" to all, it is a Right vs. Right Dilemma. Go to Step 5.

Step 5. Right-versus-Right. What are the two rights?
It is right, on the one hand, to _____
because _____ .
It is right, on the other hand, to _____
because
_____ .

Choose the dilemma category or categories that fit:

☐ **Truth versus Loyalty**   ☐ **Short Term versus Long Term**

☐ **Self versus Community**   ☐ **Justice versus Mercy**

Step 6. Resolution. Apply the three decision principles.

Ends-Based Principle. Which decision will result in the greatest good for the greatest number?

_____

_____

Rule-Based Principle. What is the highest principle that could become the rule of action here?

_____

_____

Care-Based Principle. Do what you want others to do to you. (First identify the others.)

_____

_____

Step 7. Decide. What should be done? What actually was done?

_____

_____

Step 8. Reflection. Looking back, was it the best decision?

_____

Adapted from the Institute for Global Ethics. (2003) *Ethical Fitness: Preparing for Challenges of the 21st Century.* **Camden, ME: Institute for Global Ethics.**

Ethical Attitudes of Practicing Librarians and LIS Academics: Is There a Difference?

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Етичните нагласи на практикуващите библиотекари и на университетските преподаватели по БИН: Има ли различия?

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ABSTRACT

Professional ethics seems to be gaining importance as the library environment changes under the influence of new technologies and the introduction of new legislation of concern for libraries. The changing environment may create uneasiness among the library staff, who might not always be sure how to react in new situations. Therefore librarians should learn about ethical issues, and professional ethics has become a legitimate topic in both LIS curricula and professional training courses. It might seem that LIS educators will be the first to adopt the library ethics principles and live by them. But in fact they also belong to another professional community – the academic profession – which has its own values that may or may not correspond to the professional values of librarians. In times when the library profession is confronted with numerous challenges and when voices are raised that it should re-examine its position in the society, it is extremely important that LIS educators and practicing librarians share the same professional ethics. In order to understand the professional values of the LIS academic staff, an investigation of their ethical attitudes will be carried out. The investigation will be based on a specially developed questionnaire and an accompanying interview if needed. The results will be commented upon and compared to the results obtained in two earlier investigations on the ethical attitudes of practicing librarians which were carried out in 2002 and 2006. The aim of the paper is to find out if the whole library community in Croatia shares the same professional values.

Keywords: LIS ethics; LIS education; Croatia

РЕЗЮМЕ

С промяната на библиотечната среда, под въздействието на въвеждането на нови технологии и на ново библиотечно законодателство, нараства значението на библиотечната етика. Променящата се среда може да създаде чувство на неувереност у библиотечния персонал, който не винаги е сигурен как да реагира на новите ситуации. Затова библиотекарите трябва да изучават етични въпроси и професионалната етика трябва да стане легитимна тема в учебните програми по БИН и курсовете за професионално обучение. Може да се допусне, че преподавателите по БИН биха били първите, които ще

възприемат и спазват принципите на библиотечната етика. Но всъщност те принадлежат и към друга професионална общност – професията на университетските преподаватели, която има свои ценности, съответстващи или не на професионалните ценности на библиотекарите. Във време, когато библиотечната професия се сблъсква с многобройни предизвикателства и се надигат гласове, призоваващи към преоценка на нейната позиция в обществото, изключително важно е преподавателите по БИН и пректикуващите библиотекари да споделят една и съща професионална етика. За да се установят професионалните ценности на университетските преподаватели по библиотечно-информационни науки, ще бъде проведено проучване на техните етични нагласи. То ще се основава на специално разработен въпросник и допълнително интервю, когато това се налага. Резултатите ще бъдат коментирани и сравнени с резултатите, получени от две предишни изследвания за етичните нагласи на практикуващите библиотекари, проведени през 2002 и 2006 година. Задачата на доклада е да установи, дали цялата библиотечна общност в Хърватия споделя едни и същи професионални ценности.

Ключови думи: Етика на БИН; образование по БИН; Хърватия

INTRODUCTION

Modern information technology has affected jobs and workplaces, homes, schools, universities and cultural institutions. It has influenced the business and government services, but also personal lives including recreation and amusement. Advances in information technology have also had a profound impact on library professionals. Technology has allowed librarians to establish and offer new services to users, and improve the quality of the services in an unprecedented manner, but the introduction of technology has not been accompanied by the appropriate set of guidelines which would possibly help a professional in his/her daily work and communication with users and colleagues. It is true that society provides at least a partial remedy by introducing legislation that is supposed to determine procedures and offer general guidance, but apart from the fact that legislation normally lags behind the new technology, it also cannot provide all answers needed in everyday routine. A need for a simple set of guidelines for appropriate behavior in the information technology environment seems to be the reason for opening a debate on information technology ethics in the early nineties. The debate started among computing professionals and soon spread to the library field (Cottrell, 1999).

For library professionals, information technology ethics is only a part of the professional ethics, because not all ethical issues with which a contemporary librarian has to deal today are related to information technology. Library experts seem to agree that ethics pervades almost every part of library work from cataloguing to preservation (Hauptman, 2002) and that even for the twenty-first century library professionals, the ethics of information technology is only a small part of information ethics (Fallis, 2007). Library professional values go back a long time and Gorman (2000), for instance, speaks of enduring values of librarians deeply embedded in their thinking and acting. Lester and Koehler (2003) believe that changes in the information environment have led to a new awareness of ethics, values, and responsibilities among the information professions. Fallis (2007) selects intellectual freedom, equitable access to information, information privacy, and intellectual property as the core issues of contemporary information ethics.

Library associations around the world have adopted ethical codes in order to guide their members in daily work. An exemplary selection of 34 codes adopted by national library associations can be seen on the IFLA/FAIFE webpage. In a recent study of national library associations' ethical codes, Koehler (2006) concludes that although library associations share a very similar set of values, there is a wide variation in their application, use, and enforcement.

Also information ethics has become an extensive and important topic in library education curricula, and has been taught at many LIS university departments in the world, either as a part of the course on library management or another topic, but also as a course on its own. At the Department of Information Sciences, University of Zagreb, ethical issues had first been incorporated in the library management course, in the-mid nineties professional ethics was included in the new course on library legislation and standards, and was taught more extensively, while in 2005 it became a course on its own. The course has been well accepted by students and some of them enriched it significantly by telling the class about their own experience in libraries and writing essays on specific ethical issues. Information ethics has also been introduced as a refreshment course offered by the Centre for Continuing Education of Librarians in Zagreb where practicing librarians can update their knowledge.

BEGINNING RESEARCH ON PROFESSIONAL ETHICS

Following the adoption of a new ethical code by the Croatian Library Association in 2002 (Eticki kodeks), an analysis of the new code was prepared and a comparison with several new codes originating at approximately the same time in the neighboring countries of South-East Europe was made. The codes proved to be similar and emphasized the same values, but the author warned that there are values that had not yet become fully recognized by librarians in practice (Horvat, 2003).

Yet another investigation was conducted in 2005. Its aim was to determine the highest ranking professional values of librarians. The survey was a replica of several previous investigations conducted by Dole and Koehler in 2000 and 2001. A questionnaire similar to Koehler's but slightly changed and adapted to Croatian circumstances was developed and sent to libraries throughout the country. Around 400 librarians from various kinds of libraries responded. It appeared that the three highest ranking values of the respondents were free access to information, provision of services to users, and preservation of book heritage, not unlike Dole & Koehler' results. The same survey was simultaneously carried out in the Netherlands and the comparison of replies obtained by the Dutch and Croatian respondents was made (Horvat & Koren, 2006). The authors were careful not to draw any conclusions about the whole population of librarians in the country, because of difficulties in determining the random sample of respondents.

An investigation on a smaller scale was conducted in the autumn of 2006 (Belan-Simic et al., 2007). Respondents were attendants of the Croatian Library Association annual conference. The aim of the survey was not only to find out about the ethical attitudes of participants, but also to increase awareness of the ethical issues in general among librarians. By asking questions related to ethics a message was spread that professional behavior is important and that ethics pervades day-to-day routine. Questions included in the survey were often related to the real-life situations experienced by the authors or their colleagues in the academic community or in a library. Also students' experiences described in a class were used to formulate relevant questions, and a few hypothetical situations were taken over from professional literature. In the questions a brief description of a specific situation that could happen or did happen in real-life was provided, accompanied by several possible answers respondents could choose from. The results proved that if the real-life situation described in a question was familiar to respondents, they also knew how to react. But if they had never come across a described situation in their practice, they were not quite sure how to behave. This also might lead to the conclusion that practicing librarians do not regularly read new professional literature, and the authors recommended in the conclusion the introduction of professional ethics in education and training courses

LIS ACADEMIC COMMUNITY

Library studies in Croatia were introduced relatively late to the university and not without opposition in the then academic circles who considered librarianship to be too practical to become an academic discipline. The concept of information science born in the sixties helped librarianship to join the academic club, but it also gave rise to a deep division in opinions on how the new discipline is to develop further. Differences in opinion have persisted to the present. For information science (IS) colleagues it is a single discipline whose strength is in research based on bibliometric studies, and more recently on computer linguistics studies. LIS staff believes that data collected in the daily work of libraries, archives and museums should be used in research in order to better understand and improve the tasks of those institutions which are not only information, but also cultural and educational institutions which at this very moment are struggling to redefine their role in the society. Also, teaching appears to be more important for them, since they believe that librarians should acquire knowledge about documents, users, management of libraries and information technology. One could imagine that the LIS academic community could be a strong (if not the strongest) supporter of libraries, archives and museums and could provide arguments needed for justifying those institutions to both the public and the government. But unfortunately, LIS educators seem to be detached from the practicing community, as is well proved by the fact that educators and practitioners often attend different professional meetings and are not members of the same professional associations. When, following the introduction of the Bologna process, new study programs were designed, LIS educators invoked academic freedom and university autonomy and did not find it necessary to consult with their colleagues from practice.

Another peculiarity of Croatian LIS education had to be taken into account when the questionnaire was designed. At present LIS studies are offered at three universities in the country: University of Zagreb (since 1977), University Josip Juraj Strossmayer in Osijek (since 1998) and University of Zadar (since 2003). At each university the LIS program is organized and executed within a single unit called department. However, the universities differ significantly, as regards the structure of departments and the qualifications of the teaching staff. The Department of Information Sciences, University of Zagreb is the oldest department of LIS in the country, and it offers programs not only for library science students but also for archivists, museum documentalists and future teachers of information science in secondary schools. Consequently, several disciplines are taught and researched at the LIS Department in Zagreb, gathered under a single name – informatology.

In our earlier papers we have concluded that professional ethics is at the core of professionalism, understood as the best-quality service that can be offered to clients. We wanted to find out if members of the LIS academic community share the same values as the practicing librarians and how they feel about their profession(s). The initial presumption was that LIS educators belong to the academic profession and live and work in an environment different from library environment. Daily experience confirms that LIS educators may have only sporadic connection with libraries, if they so wish; arrangements of students field practice or visits to libraries is probably the best occasion to approach colleague librarians. Library directors occasionally want to recruit a good student and then ask educators for advice. Students are often sent to do a small scale investigation or collect some data in libraries when they prepare their examinations. The presumption was also that those educators who are members of library association may have stronger relations with practicing field than the others.

Also, the LIS academic community in Croatia is rather small: the number of teaching staff including honorary lecturers does not surpass 70 persons; approximately half of them have been attached to the University of Zagreb, the others teach at universities in Osijek and Zadar. It is important to add here that LS (not IS) professors know each other well, since they meet at various professional meetings, collaborate in projects, etc.

THE INVESTIGATION

From the very beginning the authors have been fully aware of the limits of the present investigation regarding the small sample of possible respondents, their expected reluctance to provide answers to personal questions, and the overall differences in their academic background and status, which would certainly need a more careful and detailed examination if any conclusions were be drawn. However, a decision was made to pursue the investigation and possibly use it as a pilot inquiry for another research to be carried out later on. Since there has been little discussion in the LIS academic community on ethical issues and examples of unethical behavior of both teachers and students have been reported, it was felt that the investigation, however modest, might also serve as an enticement to colleagues to reflect upon day-to-day ethical issues in the academic environment and hopefully start expressing their opinion.

A relatively short and straightforward questionnaire was drafted in which a number of questions were taken over from the earlier investigation carried out among practicing librarians in 2006 (See Appendix 1). In order to entice more responses, the authors took good care to guarantee the anonymity of respondents and chose to create an online web questionnaire using Formdesk website forms, which offer various useful features, such as: auto responds by e-mail, statistics, results download, password protection, and secure data transfer. An e-mail message containing a link to the web questionnaire was sent to 67 addresses. The colleagues were simply asked to help and fill in a short questionnaire which would not take more than 10 minutes of their time. The authors signed their names at the bottom of the message assuming that their involvement in previous ethical investigations, the fact that they had been teaching information ethics for several years, and no less important, the fact that they were well known by the majority of respondents would be sufficient to elicit replies. Unfortunately, the assumption proved wrong and in spite of another e-mail reminder sent after a week, only 36 replies were received, barely enough to encourage the authors to go on. There is no doubt that professionalism includes good will to help colleagues, but we knew that there might had been plenty of other reasons for the weak recall, such as refusal to waste one's time, involvement in one's own work, etc. However, early in their investigation the authors understood that the questionnaire had attracted attention: they received e-mails with critical comments and communicated in person with colleagues. E-mails and comments received could easily be used in another investigation of academic communication and fellowship, also parts of the professional ethics.

THE FINDINGS

Out of 36 respondents, 11 are assistant, associate or full professors, 19 are assistant lecturers or researchers, and 6 are part-time colleagues who help in teaching but are not employed by the university. Accordingly the majority of respondents (42%) have less than 10 years of working experience, 28% have 10 to 19 years of experience, and 30% have more than 20 years of experience.

Academic position	
Assistant professor, associate professor or professor	30.56%
Assistant lecturer or research assistant	52.78%
Other	16.67%

Table 1: Academic position of respondents

When asked about their profession (multiple answers were allowed), the majority (62%) see themselves as members of the academic profession, 53% are librarians, 39% belong to information profession, 5% are archivists and 5% choose museum profession. Other replies include computer science, conservation, philosophy, natural sciences, and the humanities. We

find it very indicative that a number of colleagues who feel as information professionals see themselves also as library/archive/museum professionals.

The majority of respondents (67%) are members of the Croatian Library Association, only 13% are members of the Croatian Information Association, others belong to various associations of computer scientists. It should be noted here that a number of respondents did not reply to that question, guiding us to believe that they are not members of any professional association.

Thirty-one percent of respondents selected the university ethical code as the most important professional document, while for an equally big group it was the library/archive code of ethics. It should be added here that 26% of respondents selected the statute of their institution as the most important document. A similar result was obtained in the 2006 investigation of the ethical attitudes of practicing librarians, where a significant number of respondents marked the statute of their library as the most important professional document. It seems that members of the academic community do not differ in this respect from their practicing counterparts. The statute is the legal document, which must be respected by all employees; ethical code obliges individual members of the profession. Is it true that some of our colleagues feel more as employees, and less as professionals?

The respondents were also asked to choose the most important ethical code. The majority of respondents (62%) chose the academic code of ethics, but 32 % selected library/archive/museum code of ethics as their first choice. The respondents were asked to evaluate their own knowledge of the provisions of the academic code of ethics. Thirty-nine percent respond that they are sufficiently familiar with the code, 36% believe they know the code well, 16% very well, and 8% evaluate their knowledge as excellent. When asked if non-compliance with the code of ethics should be sanctioned, 97% replied yes. This answer is in accordance with the results obtained by the practicing librarians in the 2006 survey. However, the result should be compared with the replies to the last two questions in the present questionnaire, where obvious breaches of ethics described would provoke colleagues to debate only but not to any action!

Asked if they spoke or wrote about cases of organizational or professional misconduct in their institution 72% of respondents replied negatively. This might indicate that there were no cases of misconduct, but it can also mean that there were cases of misconduct but the respondents chose to be silent. If the latter interpretation is correct, the silence of educators sounds an alarm.

Have you ever spoken or written in public about professional/organizational misconduct in your institution?	
Yes	27.78%
No	72.22%

Table 2: Public action on misconduct

The majority of respondents (42%) selected academic freedom as the highest value of the academic profession; it is interesting that an almost equal number of respondents (39%) chose freedom of research as their highest value. This is an interesting division of opinions which to our mind reflects the old dilemma about the university: is it primarily a teaching or a research institution? The decision to protect the anonymity of our respondents prevented us from confirming or refuting our assumption that the IS colleagues selected freedom of research. It is also interesting that a tiny 5% selected freedom of expression, although academic freedom and freedom of research are in fact only derivatives of freedom of expression.

Highest value of the academic profession	
Academic freedom	41.67%
Freedom of expression	5.56%
Freedom of research	38.89%
Other	13.89%

Table 3: The highest value of the academic profession

Sixty-one percent of respondents do not approve of the use of filters to protect viewing of inappropriate contents, 39% approve of it. The relatively high number of proponents of the use of filters among the members of the academic community appears worrisome, since the often used argument against the use of filters is that they represent an obstacle to freedom of expression. On the other hand, a relatively small number of respondents selected freedom of expression as their highest value in the previous question.

The respondents were then invited to describe how they would react in certain specific situations. First they were asked to imagine that they had been invited to a conference to deliver a presentation on a topic that did not belong to their field of research. Traditionally professors at Croatian universities used to be lifelong researchers in one field and normally taught courses related to that field. Hardly anyone would try to compete with them in that field. In the last ten years this tradition has been interrupted out of various reasons, and a number of colleagues were only happy to start teaching and researching new topics. Nevertheless judging by replies provided by the majority of our respondents, the tradition is still respected; 58% reply that they would forward the invitation to the colleague who is an expert in the topic of the conference; 30% would excuse themselves to the organizers, while only 11% would attend the conference.

The next question tried to explore the student/professor relationship. Traditionally professors could borrow a book from the library and keep it as long as they needed it. If the library had an only copy of a title, as it often was the case, and the copy was borrowed by a professor, students would have to turn to another library or individual to obtain the book. We wanted to know if the situation had changed. We asked the respondents if they would insist that a librarian lend them the only copy, although the student needed the same book and came to the library first. Sixty-six percent of respondents would not ask such favor from the librarian; only 23% would insist that they obtain the book.

The topic of privacy was also approached. We asked colleagues what they would do if a journalist inquiries about a student's marks. Fifty-six percent would refuse such a request, and 44% would direct the journalist to the university administration. The latter reply is in fact an evasive answer, because the responsibility is transferred to the others.

We were interested to learn if colleagues would try to check in the library what the students read. Only 5% would ask a librarian to confirm that students had indeed borrowed the books required for the course, while the majority (83%) would not do that.

If invited to a dinner by a student, 55% of respondents would refuse the invitation, 3% would accept it, while 42% reply that their reaction would depend on the occasion and the student. The ambiguity of such reply may guide us to believe that students are seen more as friends and colleagues and less as persons who could ask a favor in exchange.

Asked what they would do if required to hand over personal data about a student to a policeman with court order, only 3% of respondents would deliver data and do nothing afterwards, 84% would inform the university administration, while only 12% would inform the student about the policeman's visit. Again, a high percentage of respondents will try to transfer the responsibility to the administration.

Cases of plagiarism abound at universities and it has become extremely difficult for educators to identify the resource copied regarding the plenitude of Internet sources. Also, students have been warned against plagiarism rather late in their studies, at least such is the case at the Zagreb University. We asked the respondents what they would do when confronted with a student's paper where a substantial portion of another writer's text had been used without quotation. Ninety-two percent of respondents would warn the student, 8% would talk about the case at the staff meeting and request the common action of colleagues, but not one would report the case to the ethical committee. Again colleagues prefer to solve the critical issues in a direct discussion with the person involved or transfer the responsibility to a greater circle of persons, but refrain from direct action. In the case described the code of academic ethics has certainly been violated, but in spite of their belief that breaches of ethics should be sanctioned, colleagues hesitate to initiate the sanctioning process themselves.

Asked how they would react in the similar situation, in which a colleague educator was involved, 56% would talk to the colleague and warn her/him of what s/he had done, 5% would report the case at the staff meeting, 11% would do nothing, and no one would report the colleague to the ethical committee. However, 28% reply that their further action would depend on the kind of relationship they had with the colleague. The answer appears to be highly ambiguous, since ethical conduct, at least in this case should not depend on the type of relationship an individual has with another person

You find out that your colleague copied out a part of another person's text without quotation. What would you do?	
Talk to the colleague and warn her/him	55.56%
Report the case to the ethical committee	0%
Report the case at the staff meeting	5.56%
Depends on the relationship with the colleague	27.78%
Do nothing	11.11%

Table 4: Action on plagiarism

CONCLUSION

The authors hope that in spite of its modest scope and low recall of replies this investigation of the ethical attitudes of Croatian LIS academic community could help initiate a more open talk on ethical issues among LIS educators. We have tried to find out how the educators feel about their profession(s), whether they are familiar with various codes of ethics and whether they accept the values outlined in those codes. We have assumed that basic professional values for LIS educators include protection of freedom of expression and related academic freedom, protection of privacy and respect for intellectual property.

The LIS academic community in Croatia seems to be divided into two categories; those who refuse to discuss ethical issues and those who accept to speak about it. This also means that the authors' initial assumption that the questionnaire should be anonymous was not correct: guaranteed anonymity of replies did not persuade a number of colleagues to respond, while the colleagues who decided to reply would have preferred to have been able to add comments and explain their replies more extensively, as some of them did by sending us e-mails or delivering personal comments.

Our concern is that LIS educators do not appear ready to accept responsibility but prefer to leave solving of certain issues to the university administration. From some of their replies one could conclude that they feel more as employees, and less as professionals, which they are. Some of the replies apparently contradict one another, and make any general conclusions difficult to formulate. Therefore, any future investigation should hopefully focus onto

more carefully selected points of interest. Topics that deserve a deeper exploration are: relationship between IS and LS educators concerning the difference in their attitude towards research and teaching and their involvement in professional associations. Also, relationships with both students and colleagues need a more careful examination.

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APPENDIX

The Questionnaire for LIS Educators

1. Academic position

   a) assistant professor, associate professor or professor
   b) assistant lecturer or research assistant
   c) other

2. Years of working experience

   a) 1-9
   b) 10-19
   c) 20 and more

3. What profession do you belong to? (multiple answers possible)

   a) academic
   b) information
   c) library
   d) archival
   e) museum
   f) other, please specify

4. Are you a member of a professional association? (multiple answers possible)

   a) Association of university professors
   b) Croatian Library Association
   c) Croatian Information Association
   d) Croatian Archivists Association
   e) Croatian Museum Association
   f) Other (please, specify)

5. The most important professional document is:

   a) Code of Ethics of the university/faculty
   b) Code of Ethics of your profession
   c) University statute
   d) Other, please specify

6. The most important code of ethics is:

   a) University Code of Ethics
   b) Faculty Code of Ethics
   c) Library Association Code of Ethics
   d) Code of Ethics of Archivists
   e) ICOM Code of Ethics
   f) Other, please specify

7. Your knowledge of the provisions of the University Code of Ethics is

   a) excellent
   b) very good
   c) good
   d) sufficient
   e) not sufficient

8. Non-compliance with the Code of Ethics should be sanctioned?
    a) yes
    b) no

9. Have you ever spoken or written in public about professional/organizational misconduct in your institution?
    a) yes
    b) no

10. The highest value of the academic profession is:
    a) academic freedom
    b) freedom of expression
    c) freedom of research
    d) other, please specify

11. You have been invited to attend an international conference and present a paper on the topic your colleague is the expert in. What will you do?
    a) excuse yourself to the organizer because you are not familiar with the topic
    b) prepare a paper based on your colleague's contributions and attend the conference
    c) persuade the colleague to attend the conference

12. Your library has acquired a new title of interest to you, but the book has already been reserved by a student. Will you request the librarian to lend the book to you?
    a) yes, because you have a lecture to prepare
    b) no, because the student requested the title earlier
    c) no, because all really important information is on the web
    d) do not know

13. Do you consider filters to be appropriate means of protection from inappropriate content, for children and youth in particular?
    a) yes
    b) no

14. A journalist requests personal data about a student. What will you do?
    a) provide data
    b) refuse to provide data
    c) refer the journalist to the university administration

15. It appears that students do not read the recommended literature. What will you do?
    a) request the librarian to provide you with data on the books borrowed by your students
    b) try to ascertain at the examination if recommended literature had been read
    c) will not do anything

16. You are a tutor of the student who invites you to a dinner. What will you do?
    a) accept the invitation
    b) refuse the invitation
    c) depends on the occasion and the student

17. A policeman with a court order requests personal data about a student. What will you do?
    a) provide data
    b) provide data and notify the student
    c) provide data and notify the university administration

18. You have discovered that your student copied other person's text without quotation. What will you do?

        a) tell the student this is unethical
        b) report the case to the Ethical Committee
        c) report the case at the teaching staff meeting and ask colleagues to advise you how to act further
        d) will not do anything

19. You have discovered that a colleague of yours used other author's text without quotation. What will you do?

        a) tell the colleague this is unacceptable
        b) report the case to the Ethical Committee
        c) report the case at the teaching staff meeting and ask colleagues to advise you on further action
        d) depends on the relations with the colleague
        e) will not do anything

Archiving and Small Nations:
An Ethical Issue of Two Post-Conflict Societies

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Архивирането и малките нации:
Етичен проблем в две постконфликтни общества

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ABSTRACT

Archiving is the key to transparency and accountability, concepts that symbolize good governance. In post-conflict societies like Sierra Leone and Liberia in West Africa, information is crucial to the reconciliation and democratization processes. Sierra Leone and Liberia have just emerged from brutal civil wars as a result of repressive governments that have not been accountable to the people nor been transparent. The mass violation of human rights and the international humanitarian law led to the establishment of Truth and Reconciliation Commissions (TRC) in both countries. The Sierra Leonean TRC mission was completed in 2004 while the Liberian one is still on-going. In Sierra Leone, investigations of the violations against the civilian population resulted into a report and the same is expected with the ongoing TRC work in Liberia. Ethically, given the fact that the contributions to the TRC findings are from a traumatized people, the recommendations of the TRC should be embraced in the formulation of social and economic policies that would address the articulated root causes of the conflict. However, preliminary results suggest that obstacles to the democratization of information in African post-conflict societies are many: corruption and weak political will, widespread poverty, illiteracy, lack of information skills, information technology, and electricity and telephone connections. This is further exacerbated by a shortage of professional personnel in handling information.

Keywords: *Truth and reconciliation commission; Documentation; Archiving and transitional justice*

РЕЗЮМЕ

Архивирането е ключ към прозрачност и отговорност – понятия, които са символи на добро управление. В постконфликтните общества като Сиера Леоне и Либерия в Западна Африка информацията е от огромно значение за процесите на помирение и демократизация. Масовото нарушаване на човешките права и на международния хуманитарен закон и в двете страни предизвика създаването на Комисии за истината и помирението. Мисията на комисията в Сиера Леоне завърши през 2004 г., а в Либерия все още продължава. В Сиера Леоне разследването на насилията срещу цивилното население завършиха с доклад и се очаква, че така ще стане и в Либерия. Двете мисии ще оставят след прекратяването на дейността си архиви с документи върху различни носители като аудио файлове, архивни документи върху книжен носител и видеозаписи. За да служат на целта, за която са създадени, за тяхното управление ще бъде необходима действаща информационна инфраструктура. Ще бъде приложена теоретична рамка, стъпваща върху теориите на дифузията и на информационната наука. Документацията на Комисията за истината и помирението съхранява обществена памет, която предоставя информация и пространство за помирение. Затова от значение е свободният достъп, за да може населението да узнае причините за конфликта и да избегне връщането назад. Предварителното проучване обаче показва, че препятствията пред демократизацията на информацията в африканските постконфликтни общества са многобройни: корупция и слаба политическа воля, повсеместна бедност, неграмотност, отсъствие на информационни умения, информационна технология, електричество и телефонни връзки. Това се задълбочава още повече от недостига на професионален персонал за обработка на информацията. В доклада се твърди, че възстановяването след конфликт трябва да включва установяване на трайна информационна инфраструктура още от започването на мисията на Комисията за истина и помирение. Това ще осигури разпространяването на установените от Комисията факти сред населението, което е залегнало в нейния мандат. По-нататък в доклада се посочва, че персоналът на Комисията трябва да включва архивисти и информационни специалисти, които ще разширят разпространяването и опазването на тези специални архиви, съдържащи колективната памет за жестокостите през войната. Изброени са наколко области, в които е необходимо допълнително изследване, като: потребностите на ползвателите, ролята на посредниците, многоезичният достъп до информацията, достъпът до информацията в общности на неграмотни, управлението и дългосрочното съхранение на дигиталната информация и разнообразните носители. В доклада ще бъдат дадени препоръки, които ще бъдат от полза при планирането на обработката на информацията на комисиите за истина и помирение в бъдеще, за да се улесни опазването и разпространяването на обществените спомени от гражданската война.

Ключови думи: *архиви; постконфликтно общество; разпространяване на информация; свободен код*

INTRODUCTION

Sierra Leone and Liberia are two small West African States that have undergone decades of brutal civil wars that led to the indiscriminate amputation of limbs, abduction of women and children, recruitment of children as combatants, rape and sexual abuse of women and children, gratuitous killings, cannibalism and destruction of villages and towns, leaving the populations psychologically wounded and impoverished (Schabas, 2005, p. 130). These crimes against humanity necessitated the set up of transitional justice mechanisms to help the citizens heal from the pain inflicted on them. Sierra Leone pursued a dual approach by establishing a Special Court for Sierra Leone (SCL) to try persons who bear the greatest responsi-

bility of war crimes and crimes against humanity and a Truth and Reconciliation Commission (TRC) to pursue forgiveness and reconciliation (Sawyer et al., 2007, pp. 36-68). In March 1999, Sierra Leone started peace negotiations that culminated in a power sharing agreement. The Lomé Peace Agreement was signed on the 7 July, 1999 between the Revolutionary United Front (RUF) and the government of Sierra Leone. Even though the perpetrators of atrocities were granted amnesty by the agreement, amnesty was not to apply to crimes against humanity and war crimes (Schabas, 2005, p. 130).

The Lomé Agreement paved way for the establishment of a Truth and Reconciliation Commission (Schabas, 2005, p. 130). The Sierra Leonean TRC was commissioned to delve into the political, social, economic and moral aspects of a nation with a view to establishing a historical record on the violation of human rights and international humanitarian law in the nation (*Witness to the Truth*, 2004). In Liberia, it was also decided, that the best way forward for the country was to adopt the same mechanism of transitional justice in the absence of an effective justice system, to address the legacies of abuse (Washington 2007:2). Article 23 of the Liberia Comprehensive Peace Agreement (CPA) on Ceasefire and Cessation of Hostilities between the Government of the Republic of Liberia, Liberians United for Reconciliation and Democracy and the Movement for Democracy in Liberia defines the mandate of the Liberia TRC which is to provide a forum for both victims and perpetrators to share their experiences in an effort to address impunity, facilitate genuine healing and reconciliation (Peace Agreements Digital Collection: Liberia). The Act to establish the TRC was enacted by the National Transitional Legislative Assembly on May 12, 2005 and in February 20, 2006 it was inducted by Her Excellency President Ellen Johnson-Sirleaf (Washington, 2007, p. 3). The TRC was launched in June 22, 2006 and was, like in the case of the Sierra Leonean, to investigate the root causes of the crises in Liberia which led to the massive violation of human rights.

Reconciliation is about mending broken relationships and the aim of Truth Commissions is to prevent further violence and future human rights abuses (Hayner, 2002, p. 161, 154). TRCs also promote institutional reforms that should lead to improvements in people's lives by addressing structural inequalities and material needs. The TRC reports outline in detail specific reforms across government sectors and in the public life. While TRCs engage in the national reconciliation, the individual reconciliation tends to be more complex (Hayner, 2002, p. 155). National reconciliation and democracy are closely linked and Gloppen argues that lasting reconciliation is held to be possible only within a democratic framework (Gloppen, 2005, p. 21). The transitional justice mechanisms that were pursued by Sierra Leone and the one that is being pursued by Liberia are restorative. Restorative justice is supposed to address the consequences of the crimes and change the victim's situation (Gloppen, 2005, p. 37).

Since TRC's are involved in a process of uncovering the truth, the way the documentation is handled is crucial to the credibility of its work. An accurate record of the war atrocities is hoped to prevent future atrocities through the enlightenment of the citizenry and which should prevent regression to conflict (Hayner, 2002, p. 29). Factual findings eliminate political speculations and their exposure to the public makes hard for the perpetrators to deny the truth. The truth is the basis of true reconciliation. According to a report by Amnesty International, "The right to know the truth is a collective right that ensures society access to information that is essential for the workings of democratic systems, and it is also a private right for relatives of the victims, which affords a form of compensation…" (Amnesty International report, 2007, p. 3).

However, this paper argues that if the TRC findings are to be made accessible to the citizens of Sierra Leone and Liberia, obstacles to wide dissemination have to be dealt with. In Sierra Leone the findings have not particularly reached the people who need them most (Svärd and Sundqvist, 2007). Post-conflict reconstruction should therefore include issues of information dissemination and preservation on the reconstruction agenda and it will come up with

some recommendations that will be useful in the planning of future TRC information infrastructure to ease the preservation and dissemination of the civil war societal memories.

The study relies on a literature review and primary data based on visits and interviews carried out in both Sierra Leone and Liberia in 2006 and 2007 through unstructured interviews with students, researchers, activists and ordinary people on the TRC process and post-conflict developments.

The analysis is based on the diffusion theory and the records continuum model. The diffusion theory focuses on whether people adopt or reject an innovation. The diffusion process is supposed to result into behavioral changes in terms of knowledge and attitudes (Windahl et al., 2002, p. 57). Acquisition of knowledge can only take place through exposure to the innovation and its functions (Windahl et al., 2002, p. 59). This theory helps us understand that knowledge about an innovation like computers can only be generated if people are given a chance to acquire the innovation and thereby be able learn about its functions. Castells is of the view that knowledge generation and information processing are sources of value that "depend on innovation and the capacity to diffuse innovation in networks that induce synergy by sharing this information and knowledge" (Castells, 2001, p. 226). Castell's argument illustrates that without the innovations that will promote the diffusion of the TRC findings into the various societal groups the reconciliation process is bound to be exclusive. The records continuum model demonstrates the importance of proper records management and democracy. Records management requires the capturing, maintenance, preservation and the re-presentation of records as evidence of business, social and cultural purposes for as long as they are of value. The theory explores the continuum of responsibilities that relate to accountable record keeping regimes (McKemmish, 1997, p. 2).

Disterer contends that knowledge is an economic resource and comprises of activities of knowledge generation, transfer, accumulation, adoption and diffusion. It is important that generated knowledge is shared since it increases in value through use (Disterer, 2001, p. 1). While information is useful and crucial in post-conflict societies especially in the rural areas, conditions and resources to enable people to convert such information into practice is a necessity. There are structural constraints, however, that hinder the diffusion of information and ICTs. McCormick argues that these structural constraints prevent the majority of people from fully participating in the development process of a given social system (McCormick, 2003, p. 141). He divides these constraints into first and second order constraints. The first order constraints "concern relatively fixed resources, such as land size, the alteration of which implies major transformational social policies affecting the status quo and the power structure because they imply redistribution of resources among social groups. Second order constraints are essentially reforms, which are intended to overcome some of the consequences of first order constraints without forcibly addressing the underlying foundation of inequitable social arrangements" (McCormick, 2003, p. 141). Lack of resources such as education, computer processing skills, and Internet connectivity exemplify the second order constraints (McCormick, 2003, p. 141). Castells contends that "Social development today is determined by the ability to establish a synergistic interaction between technological innovation and human values, leading to a new set of organizations and institutions that create positive feedback loops between productivity, flexibility, solidarity, safety, participation and accountability, in a new model of development that could be socially and environmentally sustainable." If Sierra Leone and Liberia are to address the challenges of post-conflict reconstruction, they will need to integrate themselves into the information society which requires investments in ICTs and education. The TRC findings articulate the issues to be addressed for an inclusive development agenda and should be used as a road map to create a just society where all citizens can enjoy full citizenship.

THE GLOBALIZED WORLD AND INFORMATION MANAGEMENT

As post-conflict countries struggle to pull themselves out of the destructive years of civil wars, they need help in building up capacity to manage information. In the globalised world, information is fundamental to development and it requires access to ICTs that will allow efficient communication nationally and internationally. Castells discusses networks that operate as interconnected nodes and that allow asymmetrical relationships. These relationships are all important for the functioning of the network. The network allows the circulation of money, people, goods, images, technology and services. In order to participate in the network one has to be included (Castells, 1999, p. iv). Castells posits, "it is urgently necessary to reverse the downward spiral of exclusion and to use information and communication technologies to empower humankind. The reintegration of social development and economic growth in the information age will require massive technological upgrading of countries, firms and households around the world." The vast majority of the citizens of both Sierra Leone and Liberia have been excluded from the advantages that are being reaped by some parts of the "global village" via the Internet. The dissemination of the TRC findings in Sierra Leone would have easily been carried out if people had access to computers and the Internet. Even though Sierra Leone and Liberia are not fully equipped with information management systems, they face the challenge of dealing with the digital records that are being generated. Without the proper management skills these digital records risk to be lost.

THE SIERRA LEONEAN AND LIBERIAN TRC ARCHIVES

The Truth and Reconciliation Commissions have collected vast amounts of information from the public through hearings, interviews, investigations and research, which are recorded on various media. The two missions will leave behind archives with compound documents like audio files, paper records and video footage, which will need a functioning information infrastructure for their management if they are to serve the purposes for which they were created. It is argued in the Amnesty International report "States should preserve archives and other evidence concerning gross violations of human rights and serious violations of international humanitarian law to facilitate knowledge of such violations to investigate allegations and to provide victims with access to an effective remedy in accordance with international law" (Amnesty International Report 2007, p. 10). It is further argued that, "a truth commission should establish archives for the preservation of documents and evidence. An important legacy of the commission's work, such as archives should be made and remain public after the end of the commission's mandate" (Amnesty International Report, 2007, p. 10). Documentation and preservation of records pose numerous challenges and these include lack of effective dissemination channels, physical preservation, information management skills and institutional infrastructure. Sierra Leone and Liberia are not equipped to handle the challenges that document dissemination and preservation pose.

The final report of the Sierra Leonean TRC is available on the Internet and there is a database of statements, however the latter cannot be accessed by the citizens of Sierra Leone. Different media like video footage and audio recordings of hearings are also available but their effective use requires access to ICT. A recommendation of the commission was that a National Human Rights Commission should be established to take over the custody of the documentation (*Witness to the Truth*, 2004). The Human Rights Commission of Sierra Leone (HRCSL) is in operation and the archives have now been handed over to it.

The documentation and archiving of the Liberian TRC findings was in April 2007 the still at the preliminary stage (Svärd, 2007, p. 18). During a visit to Liberia in September, 2007, Svärd had a meeting with the TRC commissioners revealed that document handling at the TRC headquarters was not integrated in the work of the TRC and there was no archivist em-

ployed to advise, plan and take care of the documents that are being generated. The Liberian TRC will generate compound documents that will need a proper information infrastructure that will promote the dissemination of its findings. The dissemination of the TRC findings by the media and other civil society organizations will require access to the information contained in the TRC documentation. Section 47 of the TRC mandate states, "The archives of the TRC shall remain in the public domain except those records or documents classified by the TRC as "confidential" which shall remain classified for 20 years following the retirement of the TRC" (Section 47, TRC Mandate).

However, dissemination cannot not take place in a vacuum but will require proper planning which is supposed to be done at the commencement of the TRCs. Experience in Sierra Leone shows that the same formulations were used about the dissemination of the TRC report but, when it came to the practical work the report proved very difficult to get hold of, even among the research community. Even though a recommendation was made regarding the dissemination of the generated documentation, the fact that there was no institution responsible for its maintenance has resulted in that the documentation is inaccessible and preserved under unsatisfying conditions.

EFFORTS TOWARD INFORMATION TECHNOLOGY DIFFUSION AND DETERRING CHALLENGES

The Freedom of Information (FOI) legislation is supposed to promote good information management and enhance access to government information by the electorate. The right to information is well articulated in both international and national laws. Article 19 in the Universal Declaration of Human Rights and National Constitutions regulate access to information as a human right:

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

FOI legislation has therefore been adopted in a number of African countries like Angola, South Africa, Uganda and Zimbabwe. It is important that media has access to government information in order to play its surveillance role in national governance issues, but also if it is to be used as an agency in the dissemination of the TRC findings to the people. Even though the right to information is clearly defined in both the Sierra Leonean and Liberian Constitutions the media still have problems in accessing government records. Since freedom of information is a tenet of democracy and a fundamental human right, a number of institutions in Liberia like The Centre for Transparency and Accountability in Liberia (CENTAL), The Centre for Media Studies and Peace Building, Liberia Democracy Watch and the National Youth Movement for Transparent Elections (NAYMOTE – PADD) have been engaged in fostering a culture in which the government of Liberia can be scrutinized. Journalists, human rights activists, and lawyers have been pursuing the enactment of a Freedom of Information Act that guarantees the general public access to records and information in the custody of government institutions (Access to Information Report, 2007, p. 18).

Sebina argues that according to a study that was done between 2003 and 2006 in countries where the FOI has been enacted, it has been done on weak records management regimes. This has therefore continued to hinder public access to government records (Sebina, 2007, p. 1).

Institutions like the National Archives and libraries are not well equipped and hence the chances of helping with the diffusion of information are minimal. These institutions lack the necessary equipment like proper storage facilities, ICTs, personnel and resources to play an active part in the preservation and dissemination of information.

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Access to information and efficient dissemination require both institutional and physical means. The latter includes for instance the use of ICTs. The African Information Society Initiative (AISI) has since 1996 promoted ICT policy making on the continent. Despite being the least developed in ICTs, African ministers are according to Etta (2005) the first among developing regions to adopt a master plan and a declaration to integrate their countries into the information age. AISI has continued to encourage national ICT formulation, the liberalization of national telecommunications and broadcasting and the articulation of national e-government ICT policies (Etta, 2005, p. 10).

Even though the World Summit on the Information Society (WSIS) Declaration of Principles grants everybody a right to participate and enjoy the benefits of the Information Society, the obstacles of ICT diffusion are numerous. The key challenges preventing the diffusion and utilization of ICTs in information dissemination include widespread poverty, low levels of education and under-utilization of indigenous technologies (Sierra Leone Vision, 2003, p. 30). This is further exacerbated by lack of a National and Education ICT policy, gender inequality in access to education, erratic supply of electricity, high costs of telephone connection and long-distance charges, inadequate supply of skilled ICT labour, and lack of adequate government resources for education (ICT4Africa/Country Report Sierra Leone). Developing countries like Sierra Leone and Liberia had poor communication infrastructure before the civil wars. Devices like telephones, PCs and software are rare and unevenly spread. This has for instance resulted in that the West African Region has the lowest regional e-government readiness index according to the United Nations E-Government Survey 2008.

Indicators	Sierra Leone	Liberia	Sweden
Internet per 100 users	0,19	0,03	76,97
PC per 100 users	--	--	83,49
Cellular phone subscribers per 100 users	2,21	4,87	105,92
Main telephone lines per 100 users	0,49	0,21	59,52
Broadband per 100 users	0,00	0,00	25,87

Table 1: Statistics on ICT infrastructure and usage
Source: United Nations E-Government Survey 2008.

Despite the fact that all African states now have Internet connectivity and local Internet Service Providers, most of the Internet users are concentrated in the capital cities. The rural populations of Africa are not connected due to the expensive dialup connections (Polikanov et. al. 2003, p. 43). Liberia has no outgoing fiber connectivity and its international connectivity is via satellite (Best et al. 2007, p. 36). The country lacks a national network backbone, which hampers the expansion and availability of the Internet. Internet connectivity is therefore expensive since there is no major gateway provider and individual providers have their own inter gateway facilities. It is therefore only available to a small portion of the Liberian population through Internet cafes or wireless Internet Service Providers (Best et al. 2007, p. 36). The number of people with Internet access is according to Best et al approximately 3,300 people. The Internet is a medium that enables the distribution of information from one to many and therefore lack of its access will hamper the dissemination of the TRC findings even to those Liberians with information and communication skills.

A developed ICT infrastructure would facilitate access, wider dissemination of records, and greater social inclusion. Digital materials can reach larger and more diverse user populations. This potential can however only be realized if the users have possibilities to search, find, interpret and understand relevant information.

Indicators	Sierra Leone	Liberia
Population*	5 866 000	3 750 000
Adult literacy**	34,8	51,9
Gross enrolment (primary, secondary and tertiary education)**	44,641	57,407

Table 2: Demographic structure and literacy
Sources: *World Population Prospect, The 2006 Revision.
** United Nations E-Government Survey 2008.

The multilingual societies of Sierra Leone and Liberia will require a better planning of information dissemination that will create an all inclusive dissemination of the TRC findings.

Considering the problems of low levels of education and lack of information skills among large groups of the population, the role of intermediaries becomes very important. The need for information and the importance of libraries, archives, media and educational institutions in the process of development and transition to a democratic society has been emphasized by Kargbo (2002, 2005). Lack of professional competence in handling information is a severe problem in Sierra Leone and Liberia, as well as in many other developing countries.

DISCUSSION

If the Sierra Leonean and Liberian citizens are to access information that will enhance the healing process, enable reconciliation and enlighten them about the causes of the conflict, there has to be information systems that enhance dissemination and preservation. Proper recordkeeping systems are therefore important in enhancing accountability and transparency and thereby consolidate democratic values in these post-conflict societies. The recording and storing of information is crucial to the research process of the work of an investigative body like the TRC. In order to logically organize the generated information, records management systems have to be put in place from the beginning of the process to ensure the trustworthiness of the documentation, to ease retrieval and minimize security risks given the sensitivity of the information (UKWELI handbook, 2000, p. 22). According to the records continuum model "[r]ecordkeeping is the management of records from their creation during their whole existence, in order to render accessibility of meaningful records for as long as they are of value to people, organizations, and societies – whether that is for a nanosecond or millennia" (McKemmish, 2001, p. 336). This requires a pro-active role of information professionals like archivists and records managers in the TRC missions. Recordkeeping systems involve both physical devices and people, but also institutional frameworks for maintaining the documentation. The establishment of independent and accountable institutions for the on-going management of the TRC documentation is a necessary requirement to ease issues of accessibility.

Access to the information also requires ICTs that have the potential to distribute it from one to many and also to enhance its preservation. The Internet is an indispensable tool as far as information diffusion is concerned. Rassool posits the developing world is still grappling with the challenges of illiteracy, access to ICTs and lack of technical skills (Rassool,

1999, p. 130). Information and communication skills are a prerequisite in order to engage in the social, economic, cultural and political lives. To some extent ICT itself carries a potential to an improvement:

> The central role of the ICI is to facilitate access to a wide range of information and communication services that people find valuable in their daily life as citizens, producers, consumers and caregivers. They need to be able to interact meaningfully with others, obtain useful information easily without being overwhelmed and contribute creatively to the store of available information. Content and services should be affordable, reliable, usable, diverse (culturally/linguistically/politically), secure, privacy enhancing, individually filterable, and free of censorship. (Clement & Shade 2000, p. 37)

Computer technology allows the storage, combination and presentation of various formats: text, graphics, sound recordings and moving images. Since the TRC documentation consists of compound media and formats, digital presentation is particularly suited for making the documentation accessible. For example the so called adaptive technologies, developed to support disabled persons, could further be used to facilitate access in an environment with low education levels. OCR (optical character reading) makes the translation of text to sound possible and speech interfaces could help people with low levels of education to navigate the computer screen (Cox et al, 2007). Applications customized for multiple local languages would make it possible to meet the needs of different ethnic and lingual groups (e.g. Mittal et al, 2004). Post-conflict societies therefore need to embrace ICT policies that will enhances its diffusion into the society and education programs that will equip the citizens with the necessary skills to engage in the reconstruction through sustainable peace building and development of their societies.

However, information technologies alone do not translate into development. The people for example need an education that will enable them to use the information accessed via ICTs to their advantage. The implementation of ICT-solutions would therefore require user skills. An all-inclusive development agenda would require both the governments of Sierra Leone and Liberia, to invest in education systems that are not gender biased. Both countries need to emphasize the role of information in understanding the causes of the conflict. This will require support to information management institutions and further training of the personnel to cope with the challenges of information management and to be able to devise other modes of dissemination of information to people in the rural areas where ICTs are still out of reach.

CONCLUDING REMARKS

Access to information is important if the population is to learn about the causes of conflict. In democratic societies, Freedom of Information is a human right and the only way to enhance public debates and mutual engagement in public affairs. The establishment of a sustainable information infrastructure at the commencement of the TRC missions is thus of paramount importance. This would promote the diffusion of the TRC findings to the people as laid down in the TRC mandates. The enhancement of better dissemination and preservation of these special archives that make up a collective memory of the war atrocities will require financial resources and the political will. Lack of functioning national information institutions, adequate personnel, information management skills, financial resources, internet diffusion and illiteracy, is likely to prevent the proper diffusion of the information that is being generated by the TRCs.

To enhance access to the TRC documentation the following measures are therefore suggested:

- The adoption of legislature that will enhance the Right to Information.

- A plan at the commencement of the TRC missions for the establishment of an information management infrastructure that will take care of issues of dissemination and preservation

- Recognition of the relation between good recordkeeping practices, access to information and societal transparency and accountability.

- Inclusion of information professionals in all phases of the TRC's work.

- The establishment of independent institutions for the dissemination and preservation of the documentation.

- Encouragement of international donors to locally invest in ICT and educational programs.

- Promotion of research and development work regarding the use of adaptive technologies in multi-lingual and low education societies.

- To establish a Special Fund to pursue the follow-up activities of the TRC missions.

Since the TRC documentation is based on the contributions of already traumatized people, neglect of any kind is ethically wrong and works against the efforts of reconciliation. The dissemination of the Sierra Leone TRC findings has not effectively been carried out. If Liberia is to learn a lesson from the Sierra Leonean TRC, the government and its international partners should budget for an recordkeeping component that will enhance local capacity building in document handling and enhance dissemination and preservation of the TRC archives to take care of the documentation were embarked on during the early stages of the TRC work, it would make the hand over the generated documentation to an independent institution easier. Exposing the true nature of massive violations that occurred during the conflict ensures that the past is never forgotten. As Verdier contends, a people without a past are a people without a future; and that the past, once forgotten is bound to be repeated (Verdier, 2007, p. 7). This is why the issues concerning information dissemination and preservation are crucial to the reconciliation and democratization processes of these two countries.

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Access to Information in Times of "Informatics of Domination": Ethics, Entangled in a Network of Hierarchies and Power Relations

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Достъп до информация в условията на „превъзходство на информатиката": Етика, оплетена в мрежа от йерархични и властови отношения

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ABSTRACT

Open access to information and knowledge is an issue widely recognized among scholars of information ethics. Many authors define the problem of access in terms of a digital divide. This term helps us acknowledge that there is a problem of unequal distribution of informational resources, but it does not tell us much about the wider social and economic context of the phenomenon. The sphere of knowledge production is not an objective, neutral space. Knowledge itself produces power relations, not only through its application in technological development, the economy, and politics, but also because knowledge constitutes social norms, orders, and rationalities. In a network society dominated by informatics, ethics should start from a notion of entanglement, in which we as scholars and experts are participants in a system of unequal distribution. Paradoxically, ethics might also mean a struggle against perfect communication since perfect communication as one code that translates all meaning perfectly also means a code of domination.

Keywords: *Digital divide; Power relations; Knowledge; Ethics*

РЕЗЮМЕ

Свободният достъп до информация и знание е широко известен проблем между изследователите на информационната етика. Много автори определят проблема за достъпа в контекста на дигиталното разделение. Този термин ни помага да приемем, че съществува проблем с неравното разпределение на информационните ресурси, но не ни дава представа за по-широкия социален и икономически контекст на това явление. Средата, в която се създава знание не е обективно, неутрално пространство. Самото знание създава властови отношения не само чрез прилагането му в технологичното развитие, икономиката и политиката, но също и защото е основа на обществени норми, порядък и разумност. В мрежово общество, доминирано от информатиката, етиката трябва да за-

почне с понятието за оплитане, в което ние като учени и експерти участваме в системата на неравно разпределение. Парадоксално е, че етиката може да означава и борба против съвършената комуникация, тъй като тя е код, който предава перфектно всяко значение, а това означава и код на доминацията.

Ключови думи: дигитално разделение; властови отношения; знание; Етика

INTRODUCTION

Social struggles over access to information have a long history because information – that is, communication of widely understood knowledge – has always played a significant role as a means of gaining power, prestige or wealth as well as important for freedom, emancipation and development of women and men.

The issue of widespread or universal access to information is related to the idea of democratic government. To a great extent, governance, and especially modern governance consists in the production and distribution of information. Thus, the question of access to information lies at the heart of disputes about the forms of democratic government. In this perspective, there are two main conceptions of democracy to be found in the huge body of literature and debate on the subject, namely representative democracy and participatory democracy. Simply put, the term "representative democracy" refers to a model of government in which a chosen group of representatives exercise authority in the name of all citizens. It is assumed that the representatives will be chosen among those citizens who possess the appropriate skills and knowledge to represent and govern others, usually elites, professionals, or the educated. This concept of democracy is thus based on the premise that certain kinds of knowledge and information skills are exclusive, and not accessible to all.

The concept of the participatory democracy on the other hand is rooted in the idea that citizens' contribution to governance goes far beyond the act of voting. Citizens participate in policy decision making at the community level as well as the national level, in times of globalization also at the international level. They actively participate in culture, negotiation of social values and interpretation of social relations in various fields such as work, family, community and so on. All of this demands widespread access to information and education in order to develop skills of independent reasoning. Postulates of universal access to information tend to come from the tradition of participatory democracy and its underlying assumptions rather than from that of representative democracy.

The principle of general participation is fundamental in the definition of democracy. In practice, however, democratic regimes in various historical periods have tended to exclude whole groups and classes from political decision making.

In ancient Greece, for example, not everybody was granted the right to participate in the Agora – something apologists of ancient democracy tend to forget. Most people, including women, peasants, and slaves were not only excluded from the public sphere, but also deprived of the fundamental right to decide about their own lives. Formally, exclusion was justified with a definition of citizenship based on the *oikos*, the household, which was private property of men and included property of slaves, wife, and children.

The problem of exclusion has also been common in modern democracies. For many years, women had to fight for the right to vote, just to give one example. Limited access to information for excluded groups and classes has always gone hand in hand with the exclusion from citizenship, privileges, and wealth. Women had to fight for access to higher education, to

science, or to professions considered appropriate only for men, like professional writing, just like they had to fight for the right to vote.

From the point of view of participatory democracy we must ask whether the interests of all social groups are equally represented in the public sphere. Who participates in it, and how? Who are the producers and who are the consumers of information goods and services? Who sets the agenda, who defines political and social issues, who negotiates values and policy priorities. This set of questions can also serve as a guideline mapping new challenges and tasks for scholars and professionals who deal with the issue of access to information. An exemplary area of investigation might be the question how public libraries and institutions providing information services can contribute to the informational empowerment of groups who are not active or represented in the public sphere.

Another important question related to the problem of public sphere is the question how legitimate knowledge is constituted. Who is authorized to tell the truth and how is that authorization produced and reproduced? Scholars from the post-structural tradition of research like Foucault, Lyotard and others have questioned the traditional assumption that knowledge is objective. They have put more attention to the relations of power in which knowledge is entangled, such as normalization and exclusion, governance or biopolitics.

In the second part of the 20th century, new scientific disciplines like culture and media studies, semiology and discourse analysis appeared. These disciplines have analyzed the social creation of meaning in connection to power relations. Very important in this area of research have been feminist and gender studies, which uncover how the construction of meaning has been related to the oppression of women. Many feminist scholars argue that the discrimination of women regarding access to information, politics, public life, science and so on is part of the complex relations of power inequality in such spheres as economy and sexuality.

ETHICS, KNOWLEDGE AND POWER

If we look at the field of information science, we find that ethical questions related to knowledge and power are interesting not only from the point of view of epistemic responsibility but also for practical fields such as cataloging and classification. These fields, which aimed at universality and consistency in representing knowledge systems, inherently privilege mainstream knowledge. As Olson (1998) expressed it: "Classifications are bounded systems that marginalize some groups and topics by locating them in ghettoes diasporized across the system. Other marginalized groups and topics are totally excluded from these systems, being outside of their territorial limits".

Since the mid 1990s, discussions of access to information have focused on a new issue: access to digital technologies. Digital technologies with their possibilities of transforming symbolic content into electronic impulses have revolutionized all stages of knowledge circulation including production, distribution, archiving and processing, and have thereby become a significant factor influencing access to information. On the more general and complex level of social relations, information and telecommunication technologies (ICT) have served as tools in the reconfiguration of economic and political relations nationally and globally. New technologies have become the infrastructure for the global economic network, around which capital, power and privileges have been concentrating.

THE DIGITAL DIVIDE

However, the global network is extremely selective and asymmetrical, as Manuel Castells argues. Processes of economical globalization, with ICT playing a major role, have

brought mounting disproportions in wealth and power globally and within individual states. The reorganization and globalization of production combined with cuts in social spending has resulted in growing precarious situations of workers, and worsened the situation of millions of men and women all over the world.

The global economic network gives privileges to some classes and professional groups who enjoy unlimited mobility. This is contrasted by millions of people who are tied to their localities by poverty, lack of education and borderlines. Wealth and mobility on the one hand, and locality and poverty on the other are mutually interdependent. The stratification of wealth and power within the global network overlaps with the stratification of access to digital technologies and information.

According to Haraway (1991), one of the critical aspects of the social relations of the new technologies is:

> the reformulation of expectations, culture, work, and reproduction for the large scientific and technical work-force. The major social and political danger is the formation of a strongly bimodal social structure, with the masses of women and men of all ethnic groups, but especially people of color, confined to a home economy, illiteracy of several varieties and general redundancy and impotence, controlled by high-tech repressive apparatuses ranging from entertainment to surveillance and disappearance. (p. 169)

Access to digital technologies which have become a major communication medium is not only the basic condition for access to electronic informational resources, but more generally also means inclusion in various nets of domination. Those who remain outside the networks are worst off, but many others who have been connected, have been included on very unequal conditions.

From the point of view of the access to information we must ask: Who owns knowledge? Who makes profit out of it? And whose knowledge dominates in the net?

Theoretically, the development of electronic networks has a huge potential to radically democratize the access to information, but so far that potential has not been realized. On the contrary, many reports indicate increasing stratification and growing disproportions in access to information. Advanced knowledge which is fundamental for the development of high-profit sectors like ICT or biotechnology is mainly produced in North America, Western Europe and some of the industrialized Asian countries, and it is controlled by patents and intellectual property rights.

On the other hand, there is cheap and seemingly free access to entertainment media, but this access comes at a price: Users are exposed to commercials and must increasingly give away information about themselves, which is then used to create marketing profile databases. The internet, like all traditional media has become a highly commercialized space. The commercialization of the Internet may in fact result in even deeper disproportions among media users. According to Castells (1996), "The multimedia world will be populated by two essentially distinct populations: the interacting and the interacted, meaning those who are able to select their multidirectional circuits of communication and those who are provided with a restricted number of prepackaged choices. And who is what will be largely determined by class, race, gender, and country" (p. 371).

Inequality regarding access to information is interdependent with other kinds of social inequalities. The question of access to information is multidimensional and entangled in a complex set of power relations. In fact, the very process of defining and conceptualizing the issue is a part of the power relations.

Scholars who direct their attention to the issue of informational inequality are confronted not only with the theoretical complexity of the problem but also with important ethical

and political dilemmas, not least with the question how we define our own position, which is always a partial one.

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The Ottoman Manuscripts and Projects of Digitizing Manuscripts in Turkey

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Османските ръкописи и проектите за дигитализация на ръкописи в Турция

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ABSTRACT

Manuscripts are written memories lighting the scientific development of the period in which they were created. They are also works of art having unique examples of calligraphy, miniature, marbling and bookbinding arts. In recent years, various projects have been realized with the purpose of cataloguing and digitizing of manuscripts in some information centers of Turkey. These projects have developed librarianship of manuscripts in an appreciable way. Important steps have been taken in cataloguing, digitizing, preservation, and upkeep. However, some problems stemming from services, which were produced in projects, and the structural situation of the manuscript librarianship, have occurred. In the study, listing the characteristics of the classical Ottoman manuscripts, general information on manuscripts projects, which have been realized in Turkey, are given. The study concludes with the suggestions on cataloguing and digitizing projects due to the manuscript projects and the problems that occur.

Keywords: Ottoman manuscript; Manuscript librarianship; Digitizing project for manuscript; Manuscript cataloging; Manuscript illumination

РЕЗЮМЕ

Ръкописите са записани спомени, които хвърлят светлина върху развитието на науката през периода, през който са създадени. Те са и произведения на изкуството, които съдържат уникални примери за калиграфия, миниатюри и художествена подвързия. През последните години в някои информационни центрове в Турция бяха осъществени различни проекти за каталогизация и дигитализация на ръкописи. Тези проекти допринесоха значително за развитието на библиотечната наука за ръкописите. Бяха предприети важни стъпки в областта на каталогизацията, дигитализацията, опазването и съхраняването. Появиха се обаче някои проблеми, свързани с услугите, извършени при проектите и ситуацията на структурата на библиотечните познания за ръкописите. В изследването се изброяват характеристиките на класическите османски ръкописи и се дава обща информация за проектите, свързани с ръкописи в Турция. В заключение, на основата на опита от осъществените проекти и проблемите, възникнали при тях, са дадени предложения за каталогизацията и дигитализацията.

Ключови думи: османски ръкопис; Библиотекознание за ръкописи; проект за дигитализиране на ръкописи; каталогизация на ръкописи; украса на ръкописи

INTRODUCTION

Turkey is one of the rare countries with a rich cultural heritage from the Ottoman Empire. Among this inheritance, Ottoman manuscripts have great importance and cultural value for this country. Manuscripts are authentic resources that reflect not only scientific accumulation of their periods, but their ornamentation gives information about the artistic understanding of their times. Because of this, Ottoman manuscripts are common valuable resources that have to be shared all over the world.

In Turkey, these manuscripts were stored in many information centers among which there is lack of communication and coordination, and until two decades ago, they were not preserved in adequate conditions and not serviced efficiently. In the past two decades, there have been many projects about these manuscripts in order to catalog and digitalize them by various institutions. Some of these projects are already completed and others still continue. In order to make this paper more instructive, before discussing these executed projects, some information about Ottoman manuscripts is given.

AESTHETIC FEATURES OF OTTOMAN MANUSCRIPTS

Fondness of sultans for books, libraries, and reading provided the emergence of an atmosphere leading to developing manuscripts in the palace and its surroundings. Workshops of illumination, miniature, and bookbinding were founded in the palace, and outstanding native and foreign artists worked in these workshops. Different workshops were allocated for foreign artists to prevent Turkish art from being affected (Cunbur, 1969, p. 134).

There are many types of bookbinding, which were made in different periods of the Empire, and preserved in libraries and museums, such as ivory carved, mosaic ornamented, embossed ornamented and gold veneered. There are also examples of ornamentation with valuable stones such as ruby, emerald, pearl and diamonds. These kinds of manuscripts were usually prepared for the outstanding and rich people of the period (Çığ, 1953, p. 16). It is known that especially works presented to the sultans, religious works and divans were in-

tensely ornamented. The ornamentation elements are more beautiful in the zahriye and serlevha pages of these manuscripts (Türk, 2007). Moreover, using miniature inside the work and using marbled paper on the cover is widespread.

It is known that the arts applied on the inner sides and on the bindings of the manuscripts consist of various types such as illumination, calligraphy, marbling, miniature, katı'[1], sedefkârlık[2], metal embroidery, writing work, revzen[3], textile and weaving. While manuscript ornamentation was applied only on bookbinding in the early period of the Empire in Ottomans, in later periods it started to be applied on both bookbinding and also on the first and last sections of the work. For this reason, it is necessary to evaluate the manuscript ornamentation in two groups as ornamentation applied on bookbinding and ornamentation applied on sheets of manuscript.

Classical Ottoman manuscript volumes consist of four main parts: the upper and lower covers, the spine of the book, the bookflap (sertab) and the fore-edge flap (mikleb). The upper and lower covers contain the pages of book. The spine of the book is the outer cover of the tailband where the sheets are bonded or the deep part of the manuscript. The sertab is the part covering the opened part of the manuscript between the cover and the fore-edge flap. The mikleb is the part placed under the cover when the manuscript is closed.

The parts on which the ornamentations are the densest are the covers and mikleb. In the center of the upper and lower covers, there are sunburst design and salbeks (pendant) on the edges of sunburst. Salbeks are similar motifs to sunburst and they have a complementary appearance. While şemses had round shapes in the Ottoman Empire as in the Anatolian Seljuks[4] until the 16th century, after that they were usually oval (Çığ, 1953, p. 9). The lines enclosing the outer borders of covers are called zencirek. The motifs applied in the inner corners of zencireks are called köşebend (cornerpiece).

The Ottoman bookbindings are usually classified into six groups as leather, çârkûşe, cloth, marbled, murassa and lacquered according to the type of materials and ornamentation techniques. The material type preferred most in bookbinding is leather. Respectively, sheep leather known as meşin, goat leather known as sahtıyan, gazelle leather known as rak and cow leather known as köselen were used mostly (Binark, 1945, p. 7). Çârkûşe bookbinding is the binding type which is covered by velvet, designed and embroidered clothes and enclosed by leather in triangular köşebent shape. Cloth bookbinding is made by covering linen, silk or velvet on cardboards.

The marbling art, whose history dates back to the 16th century, has an important place in the Ottoman Bookbinding art. The edges of marbled binding covers are usually covered with leather in order to prevent them from deterioration. In the Ottoman manuscripts, marbling was mostly used in the inner cover as well as book protection pockets and boxes.

It is known of murassa bindings in which woods or cardboards are covered with gold and silver plaques. Lake is another type of binding on which lacquer finish that is mix of silver, gold, and pearl powders is added after ornamenting these covers with dyes and crushed gold.
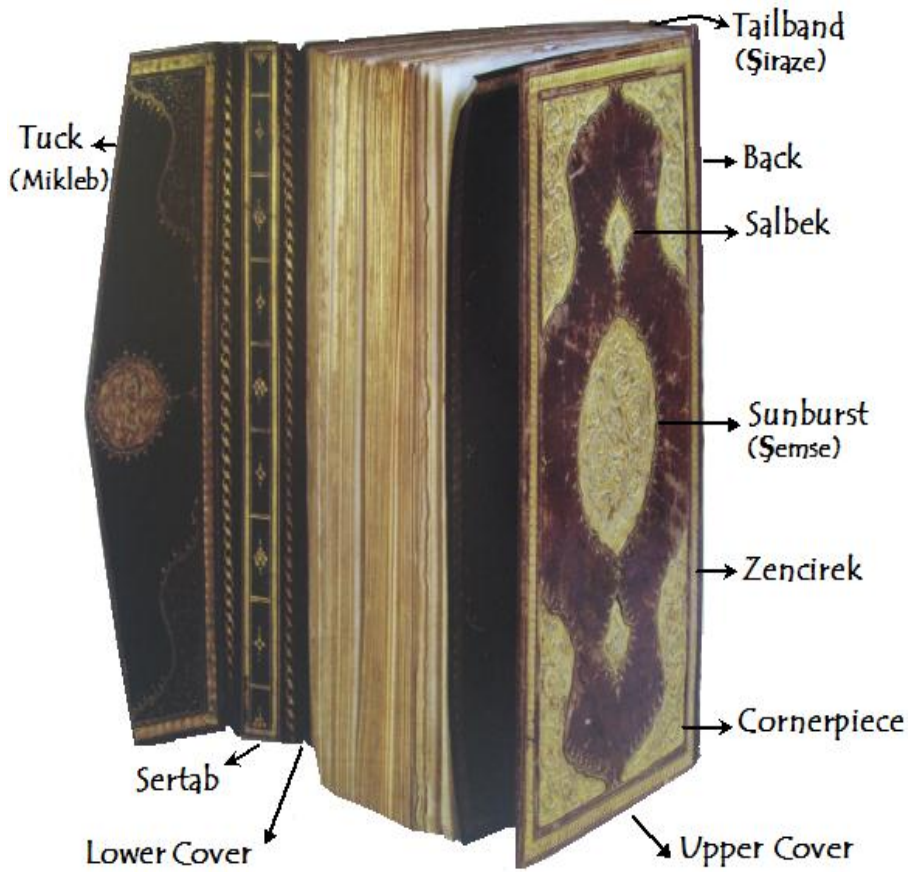
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[1] The type of art which is made with cardboard, wooden or leather carving.
[2] The technique of inlaying mother-of-pearl on a hard material.
[3] Ornamentation technique with designs by placing colorful or colorless glass pieces in plaster mold.
[4] Turkish state which dominated in Anatolia between 1077-1318 before the Ottoman Empire.

Figure 1: Parts of the Ottoman Classical Manuscript Bookbinding

The arts applied on bookbinding in the Ottoman show differences according to various factors like the types and owners of materials and art trends. For example, the books and documents prepared for sultans were generally ornamented with special decorations. In manuscripts, bookbinding ornamentation was the important thing, and side ornamentation of the interior was a secondary consideration. Bookbinding ornamentations differentiate according to the type of the material such as leather, cloth, wood and metal.

In manuscripts, ornamentations applied in inner sides are divided into a few groups. Ornamentations were usually applied on zahriye pages, serlevha and hatime pages. In addition to them, decoration of sheet edges and section roses showing transition to another theme are other ornamentation elements. Moreover, on some religious works, especially on the Holy Koran, ornamentation elements known as sure başı (beginning of sura) or fasıl başı (beginning of chapter) and durak (caesura) are used (Aksu, 1999, p. 132; Bayraktar, 1970, p. 323). It is the part forming the front side of the manuscript's first sheet and it is shown as 1a in the library catalogues. However, this condition may not be true for all manuscripts. Sometimes zahriye can appear even on the inner side of the work. In zahriye, there is some identifying information about the work and work's publisher.

El-Câmi'u's-Sahîh's Zahriye

Tefsîru İbn-i Abbâs' Serlevha

Minhâcu's-Sâdıkîn's Hatime

Figure 2: Examples of Ornamentation

In manuscripts, ornamentation with wide tables, especially in rectangular or triangular shape on the page where the text begins, is called serlevha. On the serlevha of the Ottoman manuscript, there is usually besmele[5] or the name of the book.

On the last page, the author writes prayers, the names of calligrapher and illuminator and the date of writing of the work. In some manuscripts, book name and publication date also appear. This information on the hatime page is called ketebe record (Demiriz, 2000). In hatime, the last lines are usually finished in a triangular form.

PROJECTS ON DIGITIZING MANUSCRIPTS IN TURKEY

In addition to being a treasure of information and therefore worth being researched, the Ottoman manuscripts, most of which are in old Turkish, Arabic and Persian, have also carried the most beautiful examples of traditional handicrafts such as calligraphy, illumination, marbling, bookbinding and miniature to today. The Ottoman manuscripts have been used for centuries and they have carried the great accumulation of the past to today and will carry them to the future. It is a very important responsibility to preserve and put these precious works into service of the science world. For this reason, these works need to be digitized in parallel to the developing technology, in order to be accessed easily and to be preserved from destruction.

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[5] According to Islam, the besmele which means "in the name of God, the all Compassionate, the all Merciful" is the sentence which must be said before starting to do anything.

Since the importance of these manuscripts are evident, various projects on determining, cataloguing, digitizing and putting the manuscripts on the web have been planned, realized and/or accelerated by some institutions in Turkey. This project, which has been carried out by the Ministry of Culture and Tourism in the attached libraries, is the most comprehensive and the most important one among the projects mentioned. The digitizing project of the Ministry of Culture and Tourism is the continuation of some earlier works. The Project of Collected Catalogue of Manuscripts of Turkey (TÜYATOK), which has been carried by the Presidency of National Library since 1978, constitutes the basis of the current project. In 1987, another project was started with the purpose of preparing a manuscript catalogue in the National Library. The number of metadata in these two catalogues with 32 volumes is 25,653. After a while, 25,653 metadata belonging to TÜYATOK catalogue and Manuscript Catalogue of the National Library were combined with nearly 60.000 manuscript index cards. This new catalogue, including 85,653 manuscript metadata, is now available in CD format (Milli, 2008).

These registers were put into the service of the users in a website named Manuscripts of Turkey (www.yazmalar.org), with the cooperation of the Presidency of the National Library and General Directorate of Libraries and Publications. Today on this website, there are 198,444 catalogues of the manuscripts which were created in the Ottoman geography and preserved in the libraries of the Ministry of Culture and in some foreign libraries. Moreover, as a result of digitizing projects, whole texts of 73,794 manuscripts can be seen on this website (Türkiye, 2008).

The Library of Faculty of Letters, Ankara University is the library having the third largest manuscripts collection after the National Library and Süleymaniye Library. There are nearly 35,000 manuscripts in 15,039 volumes in the library. A project called "Cataloging and Digitizing the Manuscripts" has been carried out since 1998. The purpose of the project is to prepare the catalogue and the digital images of the important ones and put them into the service on the web (Ankara, 2006, p. II). The process of preparing the catalogues, which was the first step of the project, was completed and the works on digitizing and putting them on the web are continuing. In addition to this some manuscripts of which the process was completed have been serviced on the web.

Another university with a manuscript project running is Atatürk University. There are nearly 2,300 manuscripts in the Precious Collection of Seyfettin Özege at the Central Library. Cataloguing and digitizing haven't been completed there since the important part of the Collection of Seyfettin Özege is in Arabic and there is no expert in the library. With the digitizing project, which started in 2006, the digital copies of works have been prepared. However, the studies have been proceeding quite slowly due to the lack of qualified personnel. For this reason, cataloguing of works has not begun yet; only the studies on preparing the digital copies can be done.

Except the projects done in the libraries of the universities which are the libraries connected to the Ministry of Culture, there are also projects that have been done with the support of some foundations to digitize the manuscripts in the governmental libraries. For example, a project on digitizing nearly 55,000 precious works in Istanbul University was started with the support of Teknosa (an electronic retail chain, www.teknosa.com) in 2007. The continuing project called "Works Resisting Time" is planned to be completed in 2010 (İstanbul, 2008).

Another example is the project of digitizing the Ali Emiri Collection in the Public Library. The project of digitizing 6,998 manuscripts most of which in Arabic, has been supported since 2005 by Foundation of Suna İnan Kıraç (Tanrısever, 2008; Millet, 2008). A similar project has been carried on at Süleymaniye Library in İstanbul. İbn-i Sina Collection of Süleymaniye Library is accepted as a common documentary inheritance in World Memory Program by UNESCO in 2003. İbn-i Sina Collection consisting of some works dated back to the 11th century in different sciences such as philosophy, logic, medicine and astronomy, is a

precious collection worth of being researched and scrutinîzed because of unique miniature, calligraphy, illumination and bookbinding characteristics of its works (Memory, 2008). Digitizing of 73,000 manuscripts including İbn-i Sina Collection was started with the support of Evyap Company, but the Project has not been completed yet (Güneş, 2007).

The total number of manuscripts preserved only in the libraries in Turkey is 300,000. This number is estimated at about 600,000 with the manuscripts preserved in archives, museums, mosques, foundations and by the persons. With the projects, only half of these works were bibliographically controlled and put on the web. In some information centers, there are still some manuscripts which are put into service with card and book catalogues. There is no library other than the libraries of Ministry Of Culture and Tourism, which completed digitizing studies and put the manuscripts on the web yet.

An appreciable progress can be seen in Turkish manuscript librarianship especially in the last ten years. Half of the total manuscript catalogues preserved in different information centers can be accessed on the web. The full texts of 73,794 works can be also reached on the web. When the projects in progress are completed, it will be possible for the researchers to reach the catalogue records and images of manuscripts on the web.

PROBLEMS OBSERVED IN THE DIGITIZING PROJECTS

Considering all the studies which have been carried out until today, it is seen that an important part of the activities on cataloguing and digitizing of the Ottoman manuscripts and documents were carried out independently. This situation caused some problems in digitizing projects of manuscripts in Turkey. It is possible to divide them into two groups as administrative and technical problems.

One of the administrative problems is that each public institution makes and runs independent projects from each other. For example, it is known that although both of them are connected to the Ministry of Culture and Tourism, The National Library and The Süleymaniye Library started two different projects. Unfortunately there are similar problems in the universities and other institutions. In addition to this problem, expert personnel and budget deficiencies are the other administrative problems. Moreover, lack of a national standard which can be benefited in cataloguing and digitizing of manuscripts is another administrative problem.

These problems caused many difficulties in almost every project. For example, there are not physical description elements of manuscripts in important part of catalogue records. Except the catalogues prepared by Ankara University Library, the National Library and General Directorate of Publications, there is no data about artistic characteristics of manuscripts in the catalogues in Turkey. For this reason, it is impossible for a researcher, who is researching on the artistic characteristics of manuscripts, to reach a consistent result.

Giving place to ornamentation elements details in catalogues gives opportunity to that work to be preserved with its all elements safely. For example, some manuscripts are ornamented with many miniatures and the miniatures are made by miniature artisan named nakkaş except not by the writers or the copiers of manuscripts. There are some examples where the miniatures are more valuable than the work due to their theme and the designer painter who made them. For this reason, all characteristics of the miniatures should also be recorded in the catalogue in order to preserve the work as a whole and prevent the pages with miniatures from losing. The pages ornamented with calligraphy, marbling and illumination should also be recorded. In The Catalogue of Manuscripts of Turkey Database, there is no information about the artistic characteristics of important part of the works. For example, the unique ornamentations on ten papers of the resource called "er-Risâletü'l-Nevrûziye" in Istanbul Public Library, do not take part in catalogue records (see Endnote 1). Although there are good ornamented enclosing lines on its zahriye and serlevha and various human and animal miniatures on 21

papers of the work, called "Ikdül-Cüman Tercümesi" in Süleymaniye Library, these are not included in the catalogue records (see Endnote 2). Similarly, brown leather bookbinding with gold gilded şemse and salbek on red ground and gold gilded serlevha of "Risâlat en-Niâbat", which is recorded in Konya Karatay Yusufağa Library, are not recorded in the catalogue. Unfortunately there are similar problems in many parts of the manuscript catalogues.

The second important problem observed in manuscript projects, is lack of terminological unity. This problem, which is mostly seen in the names of the works and writers in catalogues, can also be seen in physical description fields. There are also differences between the names of the works and the writers even in the manuscript catalogues of the libraries connected to the same ministry. For example, "Abd el Kâdir el-Geylanî" in the Catalogue of Manuscripts of Turkey Database is seen as both "Abdülkadir Geylani" and also as "Şeyh Abdülkadir Geylani" in Kütahya Vahidpaşa Province Public Library. In addition, the name of a manuscript belonging to Birgivi is written in two different types as "Vesilet al Ahmediyye ve al Zeriat al Sermediyye fi Şerh-I Tarikat al Muhammediyye" and "Vesilet ül Ahmediyye ve al Zeriat fi Şerh Tarikat al Muhammediyye". Also in the collected catalogue Birgivi is recorded in eleven different types (see Endnote 3) and el-Konevi is recorded in seven different types (see Endnote 4) (Türkiye, 2008).

While the information about watermark is recorded in some catalogues, they are not written in most of them. In many parts of the catalogues, there are also data about the dimensions and the numbers of lines. All these inconsistencies and deficiencies indicate that, the manuscript projects should be carried in a central structure. In addition to this, the projects should follow a national standard policy and this standard should be applied to all public institutions.

CONCLUSION

Ottoman manuscripts are valuable resources reflecting scientific, cultural, and artistic characteristics of the period and the geography the Empire dominated. They are unique works on which bookbinding, illumination, marbling, miniature and calligraphy arts can be seen together on a single work. These works are not only a value of Turkish people but also a common value of the world and they are the resources that should be shared. For this reason, manuscripts should be put into service in a way that researchers can reach the detailed information on the web in the shortest time.

In Turkey, several projects have been carried on cataloguing and digitizing of manuscripts especially for the last ten years. Cataloguing and digitizing processes of some of them are completed and put into service. As mentioned before, the cataloguing process of nearly half of the manuscripts preserved in different information centers in Turkey was completed and the majority of the images were put on the web and this provides the works being reached by all the science world. Despite this, any study on the manuscripts preserved by various institutions, foundations, and persons has not started yet.

In these projects, some administrative and technical problems have occurred. The main reason for these problems is, not to develop a national policy for managing these resources Turkey wide. Moreover, since different institutions preserve the manuscripts, the applications for maintaining, preserving and putting them into service are all different. While in some institutions the cataloguing and the digitizing processes were completed, in some institutions even the sufficient preservation conditions cannot be formed. Some institutions have to receive support for funding from various foundations because of the budget problems. Similarly, some of the projects are carried by the personnel in the institutions themselves, where as the institutions, which do not have enough resources and qualified personnel, try to overcome this diffi-

culty with part-time personnel. Decentralized management, lack of a national policy, and lack of the common guide lines, in which the standard principles and applications are designed, are the basis reasons for all the administrative and the mentioned bibliographical recording problems.

In the light of these developments in Turkey, the suggestions which should be taken into consideration in manuscript librarianship and in digitizing projects are as follows:

• The manuscripts are important resources giving richness to the information centers in which they are. The manuscripts should be put into service in a qualified way and preserved under the appropriate conditions. For this reason, developing a national policy for these works, each one being a historical memory and a work of art, is an obligation. The mentioned policy should follow a national strategy that should be applied in cataloguing, preserving, maintaining and digitizing the manuscripts preserved in various information centers Turkey wide. The national policy should put forward the rules that make the manuscripts be collected in central libraries and be kept following the same procedures. Collecting the resources in one center will ensure a qualified cataloguing, a safe preservation, a proper digitizing, and a good restoration following the original characteristics.

• Each manuscript is a historical artifact having valuable information on its theme. In addition to this, they are important works of art on most of which original examples of calligraphy, illumination, miniature, marbling and bookbinding arts are applied. The catalogues should have information about every kind of artistic characteristics of the manuscripts. Similarly, the watermark information should be written in the catalogue records. The watermark is an important qualifying element exposing the feature of the paper and determining the period to which the manuscript, which does not have the date records, belongs. For this reason, descriptive element having every kind of physical characteristics of the manuscript should be written in the manuscript catalogues.

• In order to put scientific and artistic values of manuscripts, it is necessary to have needed information that one can make any scientific and artistic evaluation about the resources on the catalogues. For this reason, the librarians and the information management professionals need to have knowledge and skills in evaluating, cataloguing, digitizing, preserving and caring the manuscripts. Consequently, the education programs in the librarianship and in the information science schools should be revised in this direction. The education programs should include at least courses on repairing and restoring little damages on the manuscripts.

• A national authority file and a dictionary of manuscripts terms should be created in order to ensure descriptive elements stay in a specific standard in catalogue records. These are mostly needed for removing different descriptions used for the names of writers and works. Different descriptions are also used for physical terms. For example, a bookbinding cover, which is described as "katı art" (carving art) in a catalogue, is described with the term "carving" in another catalogue. Similarly, lacquered bookbinding cover can be seen as varnished cover in another catalogue. The file and the dictionary should be commonly used in every information center and should continue to develop with the feedbacks.

ENDNOTES

1. The catalogue number of the work written by İbn Sînâ, Ebu Ali Hüseyin b. Hasan b. Ali (370-428 H.) is 34 Fe 1213/5.

2. Place number of the work written by Bedreddin Mahmud b. Ahmed b. Musa el-Hanedî el-Ayni is 34 Sü-Lala 318.

3. "Muhammed b. Pir Ali el Birgivi", "Birgivi, Mehmed b. Pir Ali" (this name should have been written as Mehmed b. Pir Ali but lack of comma changed family tree completely), "İmam Birgivi Mehmed", "Mehmed b.

Pir Ali Birgivi", "Birgivi Mehmed Efendi", "Mehmed al Birgivi", "Birgivi Muhammed b. Pir Ali, 981", "el-Birgivi, Muhyiddin Muhammed b. Pir Ali el-Hanefi,981", "Mehmed Efendi b. Pir Ali Birgivi" ve "Birgivi, Muhammad".

4. "Ali es-Sadri el-Konevi", "Ali es-Sadri Konevi", "Ali Sadi el-Konevi,1216/1801", "Ali Sadri el-Konevi", "Ali Sadri Konevi", "Ali Sadri Konevi" and "el-Konevi, Ali es-Sadri".

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Impact of Requirements for Functionality for Bibliographic Records in Bulgarian Cataloguing

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Отражение на изискванията за функционалност на библиографските записи в българската каталожна практика

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ABSTRACT

The functional requirements for the bibliographic records ensuare good navigation and access to the world of bibliographic information. Certain key elements in the record are sufficient for the identification documents. What is the status of Bulgarian bibliographic records? Whether they adequately allow for the identification and access to resources? What are the consequences of implementing the Functional requirements for the bibliographic records? This questions are trying to answer this report.

Keywords*: FRBR; Standardization; Bibliographic records*

РЕЗЮМЕ

Функционалните изисквания към библиографските записи гарантират достъпа и добрата навигация в света на библиографската информация. Определените основни елементи в записа са достатъчни за идентификацията на документите. Какво е състоянието на българските библиографски записи? Дали те в достатъчна степен дават възможност за идентифицирането и достъпа до ресурсите? Какви ще са последиците от прилагането на изискванията за функционалност за българските библиографски записи? На тези въпроси се опитва да даде отговор настоящият доклад.

Ключови думи*: FRBR; стандартизация; библиографски записи*

„Удобството на потребителя" е ключовата отправна точка в търсенето на пътища за стандартизиране и хармонизиране на съвременните процеси по каталогизация. Каталозите трябва да дават възможност на ползвателя да открива, идентифицира, подбира необходим ресурс в какъвто и да е библиотечен фонд, да разполага или да получава достъп до ресурс и да навигира в каталога.[1] Постигането на тези цели се осъществява чрез изработване на нови принципи и единни международни правила за каталогизация, които отразяват основните изисквания за функционалност на библиографските записи. Изследването за *Функционални изисквания към библиографските записи* (FRBR), осъществено от ИФЛА, определя базово ниво на библиографските записи, създавани от

националните библиографски агенции, чиято пълнота е достатъчно условие за удовлетворяване на потребителските изисквания и осигуряване на достъп до информация.[2]

В резултат от препоръките на FRBR се стига до преработката на международните стандарти за библиографско описание (ISBD), които отразяват заключенията и новата терминология, въведена от изследването.

В българската каталогизационна практика изследването за функционални изисквания към библиографските записи е слабо познато, а промените, предизвикани от прилагането им в каталожната теория и практика, за съжаление, все още не намират отражение. Преодоляването на така създалата се ситуация донякъде се постига чрез превеждането и прякото възприемане на международните стандарти за библиографско описание като национални. Този подход улеснява стандартизацията по отношение на несъответствие на елементите в библиографското описание, отстранява затруднения при обмен и загуба на информация, както и популяризира новата терминология и запълва липсата на български нормативни документи, които да регламентират библиографското описание на новите видове документи и медии за пренос на данни. Прякото прилагане на международните стандарти поставя въпроса за националните традиции и практики и изисква, с цел тяхното съхранение, постигането на определени договорености и вземане на методически решения.[3,4] На дневен ред стои необходимостта от изработването на национални правила за каталогизация, или най-малкото на ръководство с разработени национални примери, които ще позволят за нуждите на потребителите да се запази информацията, която традиционно е характерна за националните ни записи.

На този етап в каталожната практика се използват освен българските държавни стандарти (БДС) и международните стандарти за описание на некнижни материали ISBD (NBM)[5] и за електронни ресурси ISBD (ER)[6]. Дейността по прилагането им в практиката се извърши без предварителна подготовка и чрез прякото „напасване" на изискванията на стандартите към съществуващите практики за библиографско описание. През 2006 г. се преведе, адаптира и подготви за практическо прилагане и ISBD (CR).[7] Също така съществува и превод на ISDB(G).[8]

Тези преводи изиграха положителна роля по отношение налагане на част от новата терминология, установена на международно равнище. Пример за това е въвеждането на термина „електронен ресурс". Нов елемент в библиографското описание е и сведението за „вид на материала". Мястото му е непосредствено след основното заглавие, а разделителният знак, с който се означава, е прави скоби „[ ]" (Примери: Software [Електронен ресурс] ; Концерти [Аудиокасета][1].

Разпространението, прилагането и въвеждането на новите подходи в стандартизираното библиографско описание в практиката се популяризира чрез съществуващата в страната система за централизирано каталогизиране. Тя позволява библиотеките в България да получават библиографските записи, подготвени в Центъра за национална библиография, където активно се въвеждат и апробират промени в каталогизационните дейности. Този организационен модел поставя въпроса за пълнотата на библиографските записи, използвани в електронните каталози. В българската теория е обсъждано опростяването на библиографското описание за нуждите на машинните каталози,[9] като този въпрос отново излиза на дневен ред в съответствие с изискванията за функционалност на библиографските записи.

На основата на изискванията на изследването FRBR и анализ на българските библиографски записи с описания на монографии се наложиха определени изводи, които според нас ще доведат до промени в националната каталожна практика. Трябва да се отбележи, че определеното основно ниво на функционалност на записите не е задъл-

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[1] Примерите са взети от цитираните стандарти.

жително за спазване от националните библиографски агенции, но то е достатъчно за идентифицирането на информацията от страна на потребителите.

Според модела FRBR данните, необходими за отразяването на описваната библиографска същност, са разделени на две основни групи: ***Елементи на описанието*** и ***Организиращи елементи – точки за достъп***. Първата група отразява областите на библиографското описание, познати ни от стандартите за библиографско описание. Втората група данни са свързани с точките за достъп, или това са всички форми на имена, предмети, заглавия, индекси, които изпълняват ролята на входове към съдържанието на отделното произведение.

Характерно за **Област на заглавието и сведения за авторската отговорност** е, че българските записи включват повече информация в записа спрямо изискванията на FRBR. В тях присъства информация, свързана с подзаглавни данни, паралелни подзаглавни данни и паралелна авторска отговорност. Според изискванията на FRBR достатъчно условие за идентифициране на дадена същност е наличието на информация за заглавие, паралелно заглавие и авторска отговорност.

В **Област на характеристика на изданието** се наблюдава различие по отношение на информацията за допълнителни сведения за изданието. Според определените задължителни елементи от FRBR, освен конкретните данни за поредност на изданието или сведения за версия, тук трябва да се съдържа и допълнителна информация (авторска отговорност, отнасяща се към даденото издание, промени във вида на изданието и др.), която да подпомага идентификацията на съответната форма на физическо представяне.* В националните записи няма традиция за включването на подобна информация, макар че тя е от съществена важност при идентифицирането на дадена библиографска единица. Поради тази причина и независимо от факта, че тя присъства в БДС за библиографско описание, записите не съдържат съответната информация.

Според FRBR следват **Област на специфика на материала**, която е характерна за продължаващи, картографски, музикални издания, и **Област на издателските данни, данни за разпространение и др.**, която е идентична и отговаря по съдържание в наблюдаваните групи.

Област на физическата характеристика обхваща информация за вид на материала, чрез който се определя формата на физическото представяне или носителя. Данните за количествена характеристика и размер се включват по преценка на каталогизиращата агенция. По отношение „вид на материала" в случай на описание на монографии се предвижда включването на данни за брой на томовете, частите и др., когато описанието се касае за издания, състоящи се от много части. Прието е да се смята, че елементите „вид на материала" и „количествена характеристика" при библиографското описание на книги са съответни и включват данни за пагинация, когато информацията се отнася до еднотомно издание.[10] Българските записи включват и информация за илюстративен и съпроводителен материал, което не се предвижда според FRBR.

И при **Област на серията** се налага отново изводът, че в българските записи се включва много по-подробна информация, отколкото е според изискванията за национално ниво на библиографския запис. Така например задължителната информация според FRBR е свързана с основното заглавие на серията и номерация в сериите. Данните за паралелно заглавие на серия и първо сведение за авторска отговорност, отнасящо се до серията, се включват по преценка на каталогизиращата агенция и при необходимост

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*Според FRBR произведение (work) е интелектуална или художествена творба със самостоятелно значение; форма на проявление (expression) е интелектуално или художествено осъществяване на произведение; форма на физическо представяне (manifestation) е физическо въплъщение на формата на проявление на произведение; физическа единица (item) е отделен екземпляр от форма на физическо представяне.

за разграничаване на отделни форми на физическо представяне, което отговаря на българските държавни стандарти, където данните са незадължителни. Националните записи съдържат и данни за подсерия, номерации в подсерията. Тази информация според българските национални стандарти за библиографско описание е незадължителна, което отговаря на FRBR изискванията и позволява тези данни да не се включват. В този случай няма да се нарушат националните стандарти при промяна в пълнотата на записите за електронните каталози.

По отношение на **забележките** в българските записи се наблюдава спазване на определената от стандарта последователност на видовете забележки, като тяхното отразяване е незадължително. Според изискванията на FRBR за съдържанието на тази област забележките са конкретизирани и разделени по вид. Задължителните забележки са свързани с отличителните характеристики на формата на проявление, редакция, превод, ограничения в употребата и достъпа. Другите забележки се включват при наличието на определени условия като невъзможност от разграничаване на отделните форми на физическо представяне, при тяхната значимост, свързана със съдържанието на каталогизираната единица, при установяване на йерархична зависимост, при затруднен достъп. Когато описваната библиографска единица не е монография, се включват и забележки, свързани с характерните особености на продължаващи издания, звукозаписи, инкунабули, ноти, микроформи, визуални произведения, електронни ресурси.

Последната **Област на стандартен (или алтернативен) номер и условия за набавяне** съдържа информация само за номера, като в националните записи се посочват и данни за цена, подвързия.

Следват **Организиращи елементи – точки за достъп**. Прави впечатление, че основните точки за достъп, които са застъпени в националните записи, са формите за имена на лица, колективни автори и предметни рубрики. Тази особеност произтича от традициите при каталогизирането на българската книжовна продукция, както и от изискванията към фишовите каталози. В национален мащаб, в рамките на текущата национална библиография[11] съществуват изградени авторитетни файлове на имената на българските автори и серии, които не са достъпни за ползване от потребители и библиотеки. Съществува и се използва предметен рубрикатор. Поради този факт няма съответствие на форми на заглавие и форма на серия, които са задължителни според FRBR. Като форма на име на лица и колективи с основна отговорност към произведението се приравнява понятието „редна дума“, което е характерно за българските библиографски описания и се третира от националните стандарти и правила. Като форма на име на лица и колективи с основна отговорност към формата на проявление се включват лицата и колективите с вторична авторска отговорност. Лицата с белег *персоналия* се отнасят към предметните рубрики. Изискванията на FRBR са за наличие на форма на предметни рубрики/класификационни индекси. Българските записи включват разнообразни видове рубрики, като тематична рубрика, географско понятие, име на лице, използвано като предмет, както и класификационни индекси. В този смисъл няма противоречие с препоръките на FRBR.

Всичко казано до тук налага няколко съществени извода. Изискванията на FRBR трябва да намерят израз в изработването на нови правила за каталогизация, които да се съобразяват изцяло с нуждите на потребителите и да обхващат и създаването на точки за достъп. За електронните каталози е необходимо да се възприеме ново ниво на пълнота на библиографските записи, което да гарантира идентификацията на дадената същност и да позволява лесното навигиране в каталозите. Разширяването на видовото разнообразие на точките за достъп - например с колективен орган, фамилии и заглавия, ще повиши информационната стойност на електронните каталози и ще постави необходимостта от изработването на авторитетни файлове по споменатите белези.

Базовото ниво на функционалност е важна отправна точка в предстоящите промени в българската каталожна теория и практика и безспорно ще намери своето отражение в тези процеси. То изисква задълбочено проучване, анализиране и популяризиране, за да постигнем необходимото ниво на съвместимост на библиографската информация в национален и международен мащаб.

ОСНОВНИ ДАННИ В БИБЛИОГРАФСКИТЕ ЗАПИСИ СПОРЕД FRBR

Описателни елементи

Област на заглавието и авторската отговорност
- ✓ същинско заглавие
- ✓ паралелно(и) заглавие(я) (по преценка)
- ✓ авторска отговорност(и), идентифицираща индивид(и) и/или група(и), които имат принципно отношение към съдържанието

Област на характеристика на изданието
- ✓ сведения за изданието
- ✓ допълнителни сведения за изданието

Област на специфика на материала (или вид на публикацията)

Област на издателските данни, данни за разпространение и др.
- ✓ местоиздаване, място на разпространение и др.
- ✓ име на издател, разпространител и др.

Област на физическата характеристика
- ✓ вид на материала
- ✓ количествена характеристика (по преценка)
- ✓ размер (по преценка)

Област на серията
- ✓ основно заглавие на серията
- ✓ паралелно заглавие на серията (по преценка)
- ✓ първо сведение за авторска отговорност, отнасящо се до серията (при необходимост)
- ✓ номерация в сериите

Област на забележките
- ✓ забележки за формата на проявление (по преценка)
- ✓ забележка за езика (при необходимост)
- ✓ забележка за отличителни характеристики на формата на проявление
- ✓ забележка за изданието и библиографска история – приемник (при необходимост)
- ✓ забележка за изданието и библиографска история – приложение (при необходимост)
- ✓ забележка за изданието и библиографска история – допълнение (при необходимост)
- ✓ забележка за изданието и библиографска история – редакция
- ✓ забележка за изданието и библиографска история – превод
- ✓ забележка за изданието и библиографска история – основно произведение (при необходимост)
- ✓ забележка, свързани с подвързията и достъпността – източници на придобиване/достъп

Област на стандартен (или алтернативен) номер и условия за набавяне
- ✓ стандартен номер (или алтернативен)

Организиращи елементи – точки за достъп

Форми на имена
- ✓ форма(и) на име на лице(а) и/или на колектив(и) с основна отговорност към произведението
- ✓ форма(и) на име на лице(а) и/или на колектив(и) с основна отговорност към формата на проявление

Форми на заглавие
- ✓ форма(и) на заглавие на произведението(ята)
- ✓ допълнение към унифицирано заглавие – език
- ✓ допълнение към унифицирано заглавие – други отличителни характеристики

Форма(и) на серия(ии)
- ✓ форма на серии

Форми на предметните рубрики/класификационните индекси
- ✓ форми на предметните рубрики и/или класификационните индекси за основната тема(и) на произведението(а)

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The Involvement of the National Library of Romania in Digitization of Cultural Heritage: European and National Perspectives

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Участието на Националната библиотека на Румъния в дигитализацията на културното наследство: Европейска и национална перспектива

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ABSTRACT

The development of comprehensive widely accessible content in digital form is one of the key assumptions for the protection and evaluation of cultural heritage, for networking and presentation of Romanian cultural heritage in Europe and all over the world. In compliance with the European Commission Recommendations, a Public Policy for the digitization of cultural resources and the creation of the Digital Library of Romania, has been already adopted since January 2008, as a first step to coordinate the digitization process at national level. In this regards, a feasibility research study on digitization, digital preservation and online accessibility of library resources has been conducted among the cultural institutions that own cultural material eligible for digitization. The results of the study give us an overview on the current situation, thus a proper evaluation and an approach of the documentary corpus of the national library system, the stage of the digitization process, the technical infrastructure, as well as the training level of the staff. To better explore the cultural resources, the National Library of Romania is involved in some very interesting and large international projects, especially in projects that create relevant digital content to the enhancement of European cultural memory.

Keywords: National Library of Romania; Digitization; Cultural heritage; Digital library; Public policy

РЕЗЮМЕ

Разработването на цялостно и широкодостъпно съдържание в дигитална форма е една от ключовите предпоставки за опазване, оценка, поставяне в мрежова среда и представяне на румънското културно наследство в Европа и по света. В съответствие с препоръките на Европейската комисия, от януари 2008 г,. като първа стъпка към координиране на процеса на дигитализация на национално ниво, вече е приета Държавна политика за дигитализация на културните ресурси и създаване на Дигитална библиотека на Румъния. Във връзка с това се беше проведено научно изследване за възможностите

за дигитализация, опазване на дигиталното съдържание и достъпност онлайн на дигита-
лизираните материали между културните институции, притежаващи материали, които
подлежат на дигитализация. Резултатите от изследването ни очертаха картината на нас-
тоящото положение – точната оценка и подхода към документалния корпус на нацио-
налната библиотечна система, състоянието на процеса на дигитализация, техническата
инфраструктура и нивото на обученост на персонала. За да използва по-добре култур-
ните ресурси, Националната библиотека на Румъния се включва в някои твърде инте-
ресни проекти, които създават релевантно дигитално съдържание за увеличаването на
европейската културна памет.

*Ключови думи: Национална библиотека на Румъния; дигитализация; културно
наследство; дигитална библиотека; държавна политика*

INTRODUCTION

The National Libraries are considered a powerful institution symbolizing man's efforts
to preserve knowledge, culture, and wisdom for transmission to future generations. Without
any reserve, we should mention their major contribution in the digital age as access, dissemi-
nation, and preservation of cultural heritage. In this regard, the National Library of Romania is
no exception in the process of an effective and long-lasting digital preservation of cultural
material, which is fundamental for the current and future development of European research.

Regarding its historical landmarks, a significant noteworthy moment for the National
Library of Romania is considered to be the year 1955, when the modern principles of librari-
anship were applied to the beginnings already existing at that time. This led to the consolida-
tion in terms of institutional and functional improvement of the most important public library
in the country, with specific tasks of a national library. Concerning its origins and early years,
the first day in the National Library's biography is considered to be 15 October, 1836, the day
when the first major Romanian public library was created in the St. Sava Princely Academy of
Bucharest, but for this period only one function is relevant for the library, the patrimonial
function.

The National Library of Romania (NLR) is dedicated to documentation of the cultural,
economic and scientific development of the Romanian people. Its collection of great value and
variety include more than 12,000,000 bibliographic units – books and periodicals, important
collections of manuscripts, incunabula and old Romanian and foreign rare books, and more.
One of the most important sections of the library is the Department of Special Collections,
which includes cabinets related to bibliophily, manuscripts, historical archive, old Romanian
periodicals (from the beginning of the 19th century up to 1948), photography, cartography,
audio-visual, etc.

NLR has two headquarters in Bucharest (the central headquarters and the Special
Collections), as well as two branches (Omnia – Craiova and Batthyaneum – Alba Iulia). The
Batthyaneum library collections include over 64,401 bibliographic units, likewise we should
mention old and rare books (Romanian and foreign), incunabula, manuscripts (9th-18th cen-
tury). The manuscript collection includes two items of outstanding documentary and artistical
value: Codex Aureus (9th century) and Codex Burgundus (15th century). The Omnia Branch
was set up at the initiative of several intellectuals from Craiova, with the support of the "Liviu
Rebreanu" French-Romanian Institute and the Municipality of Lyon. Its collections are of
about 40,000 bibliographic units: books and periodicals on different subjects, especially in
French language.

According with its mission and mandate, the National Library of Romania is an important institution that has been constantly focused in the process of long-term preservation and permanent access to the cultural heritage. Digitization actions taken were in accordance with the good practices developed by European political institutions and materialized through several initiatives, directives and other specific recommendations.

The conservation and preservation of our cultural heritage is a significant contemporary European concern. The physical part of our heritage is deteriorating faster than it can be conserved, restored, or studied. Assets are being lost, or are at risk, through natural processes of decay (sometimes accelerated by poor environmental control), environmental disasters (sometimes exacerbated by human activity), or the direct effects of enhanced public access (without commensurate conservation measures).

Within the framework of the politics of permanent support of cultural values and according to his mandate to promote the preservation of cultural heritage, the National Library of Romania has been devoted on secure the preservation of the national heritage, assuming as well to transmit the spiritual values of the Romanian people. In this respect, the National Library of Romania wants to broaden access to culture, by attracting more categories of users to study its valuable collections and by active involvement in the development process of the European Digital Library.

THE EUROPEAN FRAMEWORK: ACTIONS, POLICIES AND STRATEGIES

Creating a digital library representative for Europe, able to aggregate resources, share relevant content, and ensure seamless access to the cultural heritage of the most representative institutions holding cultural values, has undergone an extensive and large process of effective ways of thinking and defining of a reference framework encompassing many actions, policies and strategies. Various initiatives were instrumental in identifying specific objectives included in eEurope Action Plan (eEurope, 2005) that aimed at making digitized resources more visible and commonly accessible. They underlined the importance of digitization as a primary building block for the development of the information society.

The Digital Libraries Initiative (n.d.) joins a European strategy set up in order to define and develop a "digital economy", to be accomplished by the year 2010. In this strategy is presented an active policy package designed to stimulate the development of information society and media industry in Europe, also to allow the use of the potential of the digital technologies in the economy and society. Three priority policies are associated:

- Creating a single European information space (as a result of the convergence of digital technologies)

- Innovation and investment in research area (supporting research projects across Europe enabling integration at the institutional structures of small and medium research results obtained at the EU level)

- Promoting an Inclusive European Information Society (aimed to eliminate disparities between Member States, therefore certain inequalities existing in electronic services for citizens - related issues to accomplish e-governance)

Within i2010, the Commission launches a new integrated Information Society policy approach. Fully in-line with the new governance cycle of the re-launched Lisbon Strategy, the approach will contribute to the core of the Lisbon goal of sustained growth and jobs.

At the European level, the European Commission has entailed a series of policies and directions to improve the framework conditions for digitization and online accessibility of cultural material and digital preservation, also to ensure financing mechanisms for a signifi-

cant set of projects and actions. A series of European projects envisage the digitization of cultural heritage in Europe for the purpose of creating new opportunities for science and education, providing real premises for economic and social development, and to improve access to information for citizens. There are larger projects with partners from different member countries of the European Union, thus ensuring the interaction between partners, promotion of cultural and linguistic diversity, identifying viable patterns and support for medium- and long-term development strategies conceived and led by the national authorities or the community, providing online access to European cultural content.

From a strictly library point of view, we would like to mention the following projects taking place in Europe.

The European Library – TEL, a project initiated with European funds having as objective to provide free access to information and documentation resources existing in 47 national libraries in Europe in 20 languages. The digital resources may be full text or bibliographical (bibliographical registration of non-electronic documents). Why the National Libraries? The National Library of a country is the one assuming the role of capitalizing, organizing, processing, preserving and valorizing the national cultural patrimony by its specific mission (legal depository, national bibliographic control, national center for conservation and preservation, methodological center). The 47 European national Libraries participating in "The European Library - TEL" are members of the CENL Conference of European National Librarians. New projects that would further develop TEL benefited of co-funding:

- The TEL- ME- MOR (2005-2007) supported 10 national libraries in Europe from the new Member States to become full-members of TEL.

- TEL+ (2007-2008) is financed by the European Commission and has two main objectives:

  o to digitize 20 million pages of content in several languages;

  o to support Romania and Bulgaria to become full-members of the European Library.

The National Library of Romania is member of TEL+ since October 2007.

European Digital Library – EDL (2006-2008) is financed by the European Commission within the framework of the eContent+ Program. EDL is an extension of the European Library, founded by CENL and its goal is to provide access to the electronic collections of libraries through a single access point. Initially there were in the project nine national libraries of the European Union (Belgium, Greece, Island, Ireland, Lichtenstein, Sweden, Norway, Spain, Luxemburg) intending to have over 50 million digital registrations accessible from a single access point (bibliographical catalogues and digital collections). The TEL and EDL projects will mutually support each other and will develop the multilingual aspects of interfaces, due to the involvement of CENL in i2010 Digital Libraries. The European Library – TEL is crucial for the organizational foundation of the European Digital Library. EDL is supportive of the collaboration between the European Library and other non-library cultural initiatives with a view to protecting and valorizing the national and European cultural patrimony.

As of year 2008, the European Digital Library – EDL entered a new stage of its evolution. It became EUROPEANA and aims to become involved in the development of digital content in all member countries of CENL. The European Commission wishes that the initiative developed at library level be extended to museums, archives and to any other structures having a role in the conservation and valorisation of the European cultural patrimony. For this purpose two recommendations were issued: Council Conclusions on Digitization and Online Accessibility of Cultural Material, and Digital Preservation (2006/C 297/01); Commission

recommendation on the digitization and online accessibility of cultural material and digital preservation (2006/585/EC).

All the assessments, analyses and projects undertaken by the EU Member States in the context of the initiative "Digital Libraries", as part of the i2010 strategy, indicate the absence of clear policies, procedures and strategies at their level, and a series of challenges that could become barriers to digitization and online access to cultural and scientific content transformed into a suitable electronic format. The challenges that arise from this specific case are intended to describe the following aspects: financial - linked to high costs of digitization process and subsequently related to the preservation and conservation issues; technical - linked to the diversity of the technologies; organizational - linked to the needs for a good coordination at national and European level; legal, meaning harmonization of certain aspects of copyright and related rights in the information society.

The European Commission argues that these initiatives for libraries should be extended to museums, archives and other structures with important roles in protection, conservation, and enhancement of European cultural heritage. The recommendations as currently formulated foresee: the creation of an European digital library fully linked with national and local efforts of digitization and preservation of cultural resources; coordination of all the actions at European level in order to create a synergy of national collections and to disseminate best practices on digitization and preservation; optimization of the usage of contents by different target groups; aspects regarding the interoperability of digital collections, licensing rights, copyright and related rights.

It is recommended for the Member States to pursue an estimate of cultural heritage suitable for digitization, so that strategies and practices can be defined in conjunction with the European one. Public authorities should provide consistent budgetary allocations for these projects and programs, therefore including national digital resources in European digital library; encouraging partnerships between cultural institutions and the private sector with the purpose to support these activities; to use common standards for digitization; to identify legislative barriers and ensure the compliance the national legislation framework with Community law and intellectual property rights and related rights.

The priority actions and a timetable for both Member States and the European Commission have been set up. The activities for the Member States are grouped into five priority directions:

- Strengthening, supporting national strategies and objectives on digitization and digital preservation
- Strengthening, supporting the coordination within and between Member States
- Contributing to the European Digital Library
- Contributing to the presentation of progress at European level
- Improving the framework conditions for digitization and online access to cultural resources and digital preservation

The activities and objectives encompassed in these priority directions are provided to be accomplished from 2007 to 2009.

At the level of Member States, digitization activities already exist, but the efforts are unequal, disparate and sometimes the results are not the expected. The causes are most often financial, organizational, or decisional. It is recommended that Member States should activate all the cultural institutions (libraries, museums, archives) and through the coordination of national libraries to participate in the achievement of the European Digital Library, also to solve issues concerning the co-operation between memories institutions during the process of digiti-

zation of cultural heritage and organization of its distribution within the information medium of eEurope.

PRELIMINARY EFFORTS TOWARD A NATIONAL DIGITAL LIBRARY

At the national level, the Ministry of Culture and Cults initiated a Public Policy for the implementation of the Digital Library of Romania in compliance with the two recommendations of the European Commission. The National Library of Romania was involved in the definition and substantiation of this public policy. All the procedural approaches used to define, promote and support the Public Policy Proposal were developed during August-December 2007. On 18 January 2008, the Public Policy was approved by the Romanian government and can be consulted on the site Ministry of Culture. The underlying principle is that the Digital Library of Romania is a unitary structure representing the national cultural patrimony in digital format, observing the accessibility to digital resources from a single access point and at the same time following a thematic and institutional organization. Accordingly, the following thematic benchmarks were defined:

- Written documentary patrimony (libraries)
- Mobile patrimony (museums, collections)
- Audio-visual patrimony (audio-visual archives)
- Immobile patrimony (monuments, archeology)
- Archive patrimony

Concerning the archive patrimony, it has been decided to tackle this issue in a later stage, which will probably make the subject of another public policy document.

For the "libraries" module, the National Library of Romania prepared a feasibility study for the entire system of public libraries of Romania, in order to identify the minimum conditions for promoting and implementing such a public policy in the domain of libraries. The study was based on a questionnaire distributed to county libraries (that assume also a methodological mission in their area), to the Library of the Romanian Academy, and the Central University Library of Bucharest (later the questionnaire was also sent to other university libraries in order to extend the results of the research). The questionnaire focused on issues related to information and documentation resources existing in libraries, their involvement in activities and projects of digitization, human and technological resources possessed, possible difficulties, and their vision of the process of digitizing the existing collections.

The Main issues pursued in the feasibility study prepared by the National Library of Romania are:

- The national legal framework
- Objectives envisaged by the libraries in the process of converting the existing documentary heritage in digital format
- An inventory of documentary information resources available in Romanian libraries and how they are preserved and exposed
- A consistent approach at the national level regarding the digitization process by setting up a strategy and a work methodology based on identification of the relevant digitization projects already existing
  - Identifying priorities on digitization and documents proposed for digitization
  - The selection of documents / collections to be digitized
  - Identifying a representative corpus of cultural material to be digitized (criteria, stages, concrete examples)

- Legal status of documents, with two aspects: intellectual property and the right of broadcasting

- Identification of technical infrastructure, digitization solutions, training level of the library staff, the costs involved

Most of the problems presented in the feasibility study are contained in Public Policy for digitization of national cultural resources. The general and specific objectives contained in this document summarized the vision concerning the making of the Digital Library of Romania in line with the European recommendations and good practice:

- Improvement, coordination and efficiency of digitization processes of cultural material at national level

- Increase the number of digitized representative cultural material, diversification and digital preservation

- Improvement of public accessibility to national cultural material

The Implementation of this Public Policy requires an Action Plan emphasizing to provide activities, schedules, responsibilities, the estimated budget for each activity, the foreseen results, also evaluation of each activity and the whole program.

We consider it is important to have a good representation of the library module involvement in this national program, in order to see the proper relation with other modules. The activities included in this Action Plan are related to:

a) Identifying the already existing projects

b) Identifying digitization priorities of libraries and of documents proposed to be digitized

c) Selecting the documents/collections to be digitized

Thus, the criteria taken into account will be: the documentary value; preservation of the original documents; the representative character for a certain domain, a certain period of time or a certain geographic area both at national and international level; a relatively large group of potential users that would justify the selection; juridical aspects of two kinds: copyright and diffusion right; financial criterion; the technology required.

d) Methodology of work

Approaches should be different, depending on: the physical characteristics of the document, ways of storage; special collections; physical state of the document. The National Center of Pathology and Restoration of Publications within the National Library of may issue a framework regulation on the way to approach the digitization process from the point of view of documents preservation.

e) Identifying the equipment and software

f) Communicating the digitized documents through documentation aspects for processing and representation in the data base, interface and access rights;

g) Costs involved in the process

The budget of the digitization project at national level depends on the selected digitization solution. The costs refer to: purchasing equipment and software; training of the library personnel; costs related to the spaces necessary for the digitization process; data base management costs; costs for obtaining copyrights and diffusion rights.

This national digitization program of the cultural heritage is very complex and requires the support and cooperation of all institutions holding cultural resources suitable to be digitized, and part of the thematic pillars contained in the public policy.

PROJECT MANAGEMENT

It takes a process-oriented approach to the digitization and management of cultural resources (keeping in mind their long-term life cycle from selection through preservation) and does so from a community-wide perspective. The case for good practice takes the holder from the identification of available resources and the selection of material, through the creation of digital content, to its preservation and sustained access.

The management of such a national program requires both co-ordination and cooperation, in order to achieve a unitary result of information and organizational resources involved, also material, financial and human resources. MoCRA (the Ministry of Culture and Religious Affairs) issued on 15 April 2008 an Order in accordance with the provisions of public policy regarding cultural resources digitization and the creation of the Romanian Digital Library, therefore specialized committees have been set up in order to coordinate all the activities issued within the public policy.

The National Library of Romania coordinates the specialized committee of the written documentary heritage field (libraries module) together with other members of public libraries, university libraries, academic library (including its subsidiaries) and MoCRA. The principle of organization is "submodular", each representative having its working group in the network which has been designated. In the working group coordinated by the National Library are also included representatives of the Romanian Patriarchy.

The specialized committee on the libraries field was held in three working sessions and was able to make a more comprehensive inventory of what is already digitized in Romanian libraries, an estimate of digitization priority, an estimate of hardware and software needs, a proposal of the cultural resources representation on the Internet, and issues related to copyright and related rights for documents held by libraries. Once approved by the Romanian Government, the Public Policy now requires a clear disposition for the funding mechanism.

EXPLORING CULTURAL HERITAGE ONLINE

The National Library of Romania is involved in some very interesting and large international projects, especially in projects that create relevant digital content to the enhancement of European cultural memory.

A representative project is "Manuscriptorium" (www.manuscriptorium.com), financed and coordinated by the National Library of the Czech Republic, aiming to build a virtual research environment for the sphere of historical resources. Manuscriptorium started collecting and making accessible on the Internet information on historical book resources, linked to a virtual library of digitized documents.

Manuscriptorium is continued with ENRICH - European Networking Resources and Information concerning Cultural Heritage (www.enrich.manuscriptorium.com), the targeted project funded under the eContentPlus program. Also coordinated by the National Library of the Czech Republic, ENRICH aims to virtual aggregation of information concerning old documentary heritage, especially manuscripts and incunabula, and other historical documents. The main goal is to provide seamless access to old documentary heritage from various European cultural institutions in order to create a shared virtual research.

The National Library of Romania has made a contribution to the Manuscriptorium project in the form of old Romanian books dating from the XVI and XVII centuries. These are items of outstanding cultural, historical and artistic value. Most of these treasures are religious works, but amongst them there are also law and history books. One of the most valuable items is the first book printed on Romanian territory – the Slavonic Book of Liturgies /Liturghierul

slavonesc - printed in the year 1508 at the Dealul Monastery (Hill Monastery) by monk Macarie. This printing is notable for its special graphic presentation, capital letters, and elaborate frontispieces. Another very important document is Apostolul printed in 1547 at Târgovişte by Dimitri Liubavici; only one copy is extant in the country. Some volumes still retain the original bindings. They are extremely refined and carefully executed, with special engravings, original capital letters and frontispieces. Other documents contain various notes made over the years by various owners.

NLR owns valuable collections that include one of the most important prints from the South-Eastern European heritage: Macarie - Slavonic Book of Liturgies, the first book printed on the present-day territory of Romania in 1508, during the reign of Radu the Great, by Macarie of Montenegro extraction. There are five copies in the country - three in the Library of the Romanian Academy, one in the Archbishopric Library in Sibiu and the one described here in the National Library. This copy is complete and has been restored. The binding is that of the time - brown leather on wood, a simple monastic work. It was compulsory for the Orthodox Church liturgy service books of that time to include the three liturgies: that according to St. John Chrisostomos, that of St. Basil the Great and the Divine Liturgy, preceded by the set ritual of the liturgy, comprising the service performed by the deacon.

The watermarks of the paper - representing a balance with round or triangular pans in a circle, an anchor in a circle and a cardinal's hat - are proof that it was made in Italy (most probably in Venice). The language of the text is Middle Bulgarian, as used in the Romanian manuscripts of the time, and not the Middle Serbian of the texts Macarie had printed in Montenegro. He arrived in the Romanian provinces fleeing from the Turkish invasion. Macarie's printing is different in its letter characteristics from that of Montenegro and Venice, as it was influenced by the lettering of the Romanian manuscripts of the time.

CONCLUSIONS

With its valuable collections, NLR is part of the European cultural heritage for the next generations, and will take the leading role in the development towards a digitization of the Romanian library environment, as a challenge to put forward a variety of competitive services.

The scheme of cultural heritage digitization and its management formed in the framework of the public policy and emerged projects will continue to be improved when the general national program will be created where the management engine of this process will finally be defined. Therefore, NLR will continue to explore his outstanding collection by active involvement as: drafting a national programme for the long-term digital preservation of national cultural heritage as well as for its integration with the e-environments of educational institutions; fostering achievements and future prospects actions emphasising on cultural heritage; creating a collection of digital information with archival value; organization of co-operation between the memory institutions and their integration into the information and culture policy; preparation of projects on digitization of cultural heritage and their implementation by establishing unified systems and promoting co-operation with business partners; distribution of cultural heritage by using information and communication technologies.

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Multilingual Taxonomic and Terminological Structures of a Domain

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Многоезични таксономични и терминологични структури на практическа област

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ABSTRACT

In developing countries, a well consolidated written tradition has not yet evolved. The reason for this is related to the endurance of colonial domination and consequently to the repression of native culture. Also, in industrialized countries, the rapidity of development has not taken account of the fact that it would be opportune to formalize "niche" knowledge. In both cases, there is an ever growing need for a written formalization of routine knowledge or, to use an accepted terminological term, of tacit knowledge.

The different aims of this activity, ranging from the industrialization of workflows to the opportunity of building specialized knowledge collections, are useful to help and to guarantee the continuity of small and medium-sized business during successions and to guarantee staff training related to specific practices. Attempts at developing a standardized methodology for modelling and formalizing these kinds of processes are numerous, and in almost all cases they are connected with one domain or with specific project characteristics.

The KADS methodology and its simplified version, CommonKads, the specific characteristic of which resides in elicitation techniques and the compulsory realisation of a set of models used for the representation of all aspects of the domain application, provided, better than other methodologies, a way of testing the methodological possibilities of work related with the field of handicrafts and medium-sized business. In particular, they enable testing of the necessary modifications to both the methodological path and to the software package used to try to arrive at a further version of the standard strongly oriented towards the use of multilingual taxonomic and terminological structures as keys to access and consultation.

Keywords: *Taxonomy; Terminological structures; Small and medium sized enterprises*

РЕЗЮМЕ

В развиващите се страни все още не е създадена добре установена писмена традиция. Причината за това е свързана с дълготрайното колониално господство и потискането на местната култура като последица от него. В индустриализираните страни в бързината на развитието също е пренебрегнат фактът, че би било уместно да се формализира специализираното знание. И в двата случая съществува все по голяма необходимост от формализиран на рутинното знание или, ако използваме приетата терминология, на неявното знание.

Разнообразните цели на тази дейност, които се простират от индустриализирането на работните процеси до възможността да се изграждат специални сбирки от знание, подпомагат и осигуряват приемствеността при малките и средните предприятия при смяна на управлението и гарантират свързаното със специфични практики обучение на персонала. Опитите да се разработи стандартизирана методология за моделиране и формализиране на този вид процеси са многобройни и почти във всички случаи са свързани с особеностите на една област или на конкретен проект.

Методологията KADS и нейната опростена версия CommonKads, чиято специфична характеристика се състои в техники на извличане и принудително осъществяване на набор от модели за представяне на всички аспекти на приложението на една практическа област, предлага по-добър от останалите методологии начин на изпробване на методологичните възможности за работа в областта на занаятите и средните предприятия. По-специално, те създават възможност да се изпробват необходимите модификации на методологичната пътека и на софтуерния пакет, използвани в процеса на търсене на по-нова версия на стандарт, насочен изцяло към използването на многоезични таксономични и терминологични структури като ключ към достъпа и ползването.

Ключови думи: *Таксономия; Терминологични структури; Малки и средни предприятия*

Terminology and Information Science are the two central research fields in this work. The application domain in which the project was developed and in which the methodology was tested is that of goldsmith handcraftsmanship. More precisely, this specific case is a project aimed at the formalization of the tacit knowledge used to manage the passage from one generation to the next in firms, and to create unsupervised learning paths.

The aim of this project is to create an experimental platform that could be used to develop, thanks to the retrieval of traditional models based on terminological and documental research, a model of local innovation in the field of goldsmith handcraftsmanship. In this field there is a strong need to formalize and represent the normally used knowledge of handicraft experts that allows them to realize exclusive and highly valuable products without the need of describing and structuring the whole productive cycle (or most of it).

The consultation tool chosen for this purpose is a Faceted Thesaurus which supports the user in knowledge research and retrieval. It uses a terminology which is normalized yet but still linked to the specific lexicon commonly used in what is still a substantially closed professional community. All this is done keeping track of both the technical and terminological specificities that have emerged, with an immediate contextualization, relative to original documentation, in order to provide, always and in any event, possible decisional supports during making of the operative choices.

The activities of the project have been carried out in two macro-phases. The first has been dedicated to the creation of a Knowledge Base for the domain by means of an in-depth Knowledge Acquisition process (Guarasci *et al.,* 2008). The second focuses more on the terminological aspect, aimed at the construction of systems of interrogation and consultation.

After a careful analysis of the literature, which highlighted a reasonable number of formalized standards and, on the other hand, a small number of real case studies available, for the analysis of the domain and for knowledge acquisition we chose CommonKADS, the simplified version of the standard KADS (Martin, 1994) which, through tacit knowledge elicitation processes from domain experts, allows for formalization according to structured models which describe the various aspects of the reference domain. This in the knowledge of the

fact that the applicative cases indicated, as a limit, use in a small number of processes and not in an entire knowledge domain. The dimensions of the domain and its extremely specific connotation led us in any event to consider an application of this methodology possible. As operative support we used the PCPACK5 toolset, adaptable to the CommonKADS methodology, developed in 1994 by Epistemics, but still widely used by many enterprises for Knowledge Acquisition and Analysis tasks.

The peculiarity of the domain determined, during the different phases of the project, an interesting personalization activity in the application of the tool, which aimed at solving terminological and documental problems. The small degree of formalization and the high specificity of the domain, highlighted terminological-conceptual incongruities which, especially during the modeling phase, required the construction of taxonomical and thesaurus structures to manage the frequent cases of synonymy and polysemy. The hybrid approach, used in the phase of acquisition, started from the process of domain experts tacit knowledge extraction to build a *Knowledge Model* and implement the conceptual model, on which the following elicitation process was based. In doing this we followed the dictates of the CommonKADS methodology, which has always been used for Knowledge Elicitation problems, and more in general as a baseline for the development of research systems and projects oriented to knowledge.

CommonKADS is based on a life cycle model named *Spiral Model* (Boehm, 1988), which includes the following steps: *Scoping and feasibility study*, *Impact and improvement study*, *Knowledge Analysis*, *Communication interface analysis*, *System design*, *Knowledge-system implementation*. For each of these steps four cyclic activities are foreseen: *Review*, *Risk*, *Plan e Monito*r (Schreiber *et al.*, 2000), which make system designing flexible by means of consecutive cycles that can be adapted on the basis of the experience of the previous ones. For our purpose, we used only the phases of *Analysis* and *Conceptualization* to describe the reference domain, since we realized that, the disadvantage already mentioned about the optimal applicability of CommonKADS only to single processes, significantly persisted in spite of the field peculiarities.

The *Analysis* phase of CommonKADS involves the use of different models for the decomposition of the *Knowledge Engineering* tasks specifically defined: *Organization Model*, *Task Model*, *Agent Model*, *Communication Model*, *Knowledge Model,* and *Design Model.* The most relevant model for our purposes, in terms of the function executed and of the information provided, is the *Knowledge Model,* which describes and structures the knowledge needed for the execution of a particular task. This is composed of three levels of representation: the domain level, in which the domain knowledge is identified; the inference level, which describes the inferences which can be realized starting from this knowledge and, finally, the task level, which specifies the order of the various inferences related to the execution of a given task (Hickman *et al.,* 1989). Preliminary to the construction of this model is the choice of a generic template (Breuker and Van de Velde, 1994), adaptable to the domain and to the objectives to be reached: diagnosis, classification, prediction, evaluation, etc.

The activity of model construction is supported by a knowledge acquisition process, realised from domain experts and based on the use of a series of elicitation techniques. These techniques should be used in different phases of the process, since each of them permits the capture of a specific typology of knowledge and the achievement of specific aims. The most common techniques are interviews, followed by the direct observation of expert performances, which allows for the extraction of procedural knowledge, mostly connected to manual skills (*Think Aloud Problem Solving*, *Self-report*, and *Shadowing*). Other techniques, like *Card Sorting* and *Repertory Grid*, are useful for understanding how experts conceptualise knowledge related to their own domain of reference. Moreover, the methodology offers the possible application of other techniques, like the *Twenty-Questions technique*, the use of *Ladders*, conceptual maps, matrices and diagrams (Milton, 2007).

In the case of goldsmith handcrafts, the first elicitation technique used was that of *Interviews*, using semi-structured questionnaires to be submitted to domain experts. All interviews have been recorded and transcribed for their subsequent use in the adopted tool. Further Knowledge was extracted by a *Protocol Analysis,* based on the analysis of audio–video recordings of the experts/professionals performances, highlighting the most important Knowledge objects: concepts, attributes, relationships, values and tasks. The techniques chosen for this *Protocol Analysis* are: *Self Reporting* (through which a video-recording has been made of the entire gold workmanship process, carried out with all the experts involved); *Shadowing*; *Repertory Grid* and *Card Sorting*.

The PCPACK5 *Protocol tool* permitted the analysis of the transcribed interviews and their annotation and structuring into significant classes for the reference domain, i.e. instruments, techniques, materials, etc., proceeding with a normalization of these elements, in view of their inclusion in the Thesaurus to be created. The various elements, categorized in this way, merge automatically into the Knowledge Base and into an ontology browser which allows for their visualization and use in the remaining software modeling tools.

Beyond the *Protocol Tool,* we also used the following PCPACK5 tools to model the relevant Knowledge:

- *Ladder Tool*, which allowed us to realize tree structures establishing a hierarchical relation between the inserted elements, whether they are concepts, tasks or attributes;

- *Diagram Tool*, used to create diagrams, assuming different connotations on the basis of the modality of representation of the elements, and the typology and established rules between them (*process map, activity diagram, concept map*, etc.);

- *Matrix Tool,* used to create matrices which relate either different types of Knowledge Objects (*relational matrix*), or concepts with their relative attributes (*attribute matrix*);

- *Annotation Tool*, which allowed us to obtain models similar to terminological records, providing more detailed indications about the most interesting elements. The fields can include: description, relations, synonyms, the context in which the element appear, and so on. All this in order to maintain a link between the element itself and the source - in our case the transcription from which the element was extracted.

The final product of this work is represented by a *Knowledge Model* in a XML format, able to preserve all the information and the relations inserted from time to time.

A specific personalization of the tool was necessary in order not to uniform the extracted knowledge, with regard to the same productive process, of every single handicrafts master, but, on the contrary, to highlight the particularities and originality of each expert.

Having checked, as indicated above, that the standard CommonKADS is not optimized to model a whole domain of reference, but only single work processes which are Knowledge Intensive, in other words processes which require a particular cognitive charge, we opted, for the *Structuring* phase of the analyzed knowledge, for the construction of a faceted Thesaurus. The choice can be explained by Thesaurus peculiarities which reside in its flexibility, its multidimensionality, in the possibility to be adapted to any context of application and in its larger efficacy and efficiency in information searching/retrieval, as well as in its optimal use on the web.

This Thesaurus will be associated to the XML Knowledge Model generated by PCPACK and transformed into a consultable product. By doing thus the access to the Knowledge Base will take place through a closed terminological list, in which terms will be organized in preferred and non-preferred terms, including also synonyms or lexical variants, so that information may be accessed through different points. By adopting such a system it is, moreover, possible to

maintain the terminological individuality of each goldsmith. In fact, the specificity of the domain and the relative lexicon, considering that most of the handicraft experts didn't follow a professional training program, shows that often there are terminological incongruities, therefore to the same object, carrying out the same function, different terms are attributed or, in the event in which a different function is recognized, two different objects are attributed with the same denomination.

In order to built the faceted thesaurus it was necessary to go on to a semi automatic extraction of the candidate terms from written sources such as ANSI and ISO standards, the interviews, technical reports and a glossary of general jewelry terms.

The Terminology Extraction program used for the detection of the candidate terms is Text-2-Knowledge, T2K (Bartolini et al., 2005).

Once the linguistic analysis of the T2K texts is performed, the program semi-automatically acquires several ontologies as advanced support for document management. It then provides, as final output, a term-based vocabulary whose added value is represented by the terms' semantic and conceptual information regarding the vocabulary itself. These terms become the labels/descriptors of our thesaurus, and are organized in a hierarchical hyponym/hyperonym relation depending on the internal linguistic structure of the terms; that is, by sharing the same lexical head, modifiers, and so on as shown below:

Lexical Heading	Modifiers
Incassatura	Incassatura invisibile
Incassatura	Incassatura a binario
Incassatura	Incassatura a lastra
Incassatura	Incassatura a castone ribattuto

Table 1

The computational analysis system adopted by T2K includes a specific tool for the analysis of Italian (Bartolini *et al*., 2005).

In particular, T2K integrates systems for automatic linguistic analysis of texts, using statistical algorithms to identify and cluster conceptual structures; annotation tools, or knowledge mark-up of the text; and finally structured data supporting the conceptual-terminological indexing of documents. Figure 1 shows the architecture and the implementation of the software (Montemagni, 1996):
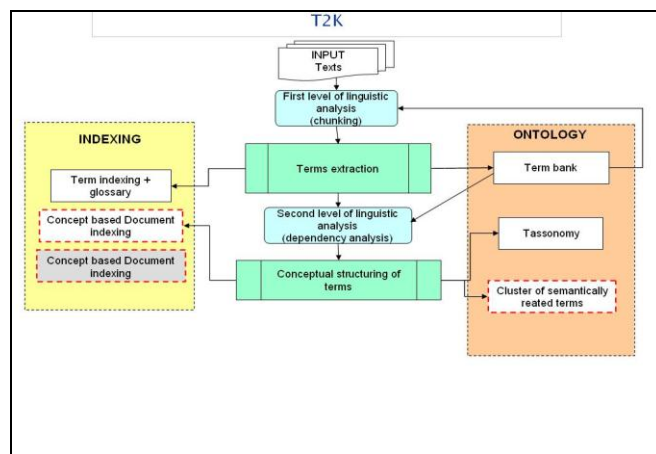

Figure1: T2K functional architecture

The candidate terms detected by T2K can be either single or multi-word terms, and represent the terminology index of the domain analysed. In general, the terms belonging to the vocabulary provided by T2K can be organized in different lexical relations.

The hierarchical hyponym/hyperonym relation mentioned above is not the only conceptual structure provided by T2K. In fact, the output is a domain ontology made up, in particular, of a term-based glossary with clusters of semantically related words and a semantic-conceptual network of terms.

With regard to the Thesaurus construction, we complied with the standards of the field, represented by the ISO 5964 of 1985, relative to the construction of multilingual thesauri, and by the more recent ANSI NISO Z 39.19 of 2005, related to the various typologies of controlled vocabularies. Concerning the domain of application, we decided to include the area of main interest, the goldsmiths of Calabria, in the more general field of Italian goldsmiths. As the first domain represents a specification of the second one, the final product will be a thesaurus within the thesaurus, in which we have tried to point out, as far as possible, the specific terms used by experts in the particular regional context. This internal subdivision of the thesaurus enabled the coexistence of terms related to different linguistic registers, being some of them peculiar to the vocabulary of the interviewed experts.

The approach we have followed to realise a faceted classification has included, as first writing of the thesaurus, a systematic presentation, where relations between terms are pointed out by graphical expedients. While in subsequent alphabetic presentation, realised using the One2One software, specific for the construction of thesauri, the relationships established between each term and the other terms contained in the controlled vocabulary have been highlighted. Nevertheless, we can also find the alphabetical order in the systematic presentation, where it is used in order to arrange the terms of each facets or subfacets. Anyway, the two presentations will be considered complementary, especially with regard to consultation.

In particular, the relationship that connects preferred terms to the corresponding non-preferred terms and that is checked off by the abbreviations USE and UF, associates synonyms, near synonyms and variants; the hierarchical relationship, defined by the abbreviations NT and BT, on the other hand links terms which are in a relation of genre-species or of part-whole while the associative one, RT, fits in with terms somehow reciprocally related (Trigari, 1992).

As far as concern term normalisation, we have attained to the specific norms, therefore we adopted plural form for terms referring to countable concepts while in case of non-countable concepts we used the singular form. Similarly, actions contained in particular in the categories of activities and processes, have been represented by the use of substantive verbs rather than infinitive one.

In the presence of homographic terms we have used some qualifiers, whose function consists in disambiguating the terms, and we have also tried to avoid, as much as possible, the use of polyhierarchical relationships, by preferring less generic criterion of categorisation. In the specific case, in presence of synonyms, we have chosen the preferred term according to the ISO norms referring to the specific field, to the "disciplinari di produzione" of some of Italian regions, to the terminological database on the same subject realised and provided by the SSLMIT at Forli and the text "Il lessico dell'oreficeria artigianale: indagine terminologica italiano-inglese" also provided by SSLMIT in Trieste. On the basis of the first two sources, we have constructed two separated corpora, then processed using terminological extraction.

Moreover, in order to obtain a better classification of terms, we have referred also to the AAT Thesaurus (Art & Architecture Thesaurus), built on the basis of a faceted classification and related to art and architecture, hence containing some of the terms belonging to our vocabulary. These sources have been considered useful also for terms classification and for terminological-conceptual comparison.

Facets, which allow the categorisation of terms in the thesaurus on the basis of the properties and of the characteristics of the concepts they designate, have been chosen from those defined by the Classification Research Group (CRG), which revised and extended the classical and initial five facets of Ranganathan, in other words Personality, Matter, Energy, Space and Time (Broughton, 2008).

The adoption of predefined facets for whichever field of reference necessarily involves an evaluation of their appropriateness, followed by an adaptation activity in order to guarantee a description as adequate as possible to the domain under examination.

The following table shows the categories defined by the CRG and the corresponding concepts of our domain:

Thing/entity Concepts designating the principal objects of study in a topic or in a discipline	Techniques Ex. Embossment
Kind Concepts indicating a relationship genre- specie with concepts defined in the category thing/entity	
Part Concepts indicating parts of the concepts included in the category thing/entity	
Property concepts designating properties or attributes of the concepts included in the category thing/entity	Properties of techniques Ex. Problematic nature
Material concepts related to materials or substances of any type	Materials used in goldsmith, with the exception of those ones used in activities Ex. Metals
Process concepts related to actions that happen in a spontaneous way, not performed by human agents	Actions not performed by human agents Ex. Metal Oxidation
Operation concepts related to actions performed by human agents on an object	Activities performed by human agents Ex. Alloys preparation
Patient concepts indicating objects used in intermediate phases of the productive process	Concepts used in activities in intermediate phases of the productive process Ex. Models in wax
Product concepts indicating products of activities	Products of activities Ex. Earrings
By-product concepts indicating intermediate products of activities	Intermediate products of activities Ex. Setting
Agent/Tools concepts used to perform actions	Tools, People, Substances Ex. Burin
Space concepts related to places	Places Ex. Laboratories
Time Concepts related to time	Styles, Periods, etc. Ex. Byzantine style

Table 2. Categories defined by the CRG VS Concepts in the thesaurus of goldsmith.

It is evident that the facets *Kind* and *Parts* have not been inserted in our thesaurus since they are considered redundant. In effect, in the first case the kind of techniques are already specified in the category of the main concepts, by means of the subfacets that have been included, whereas in the second case the parts in which techniques can be subdivided are already expressed in the facets of activities. The fact that working techniques have been associated to the facet of entities depends on the observation that this aspect is considered the most interesting in the analysis of the whole domain of reference.

One of the problems encountered during the phase of the thesaurus editing is connected to the treatment of compound terms which, in this specific domain, are numerically relevant. In

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theory, compound terms should be inserted in limited number in a thesaurus, but the high specificity of the domain allows a carefully controlled inclusion. In particular, terms that have already a well established use can be inserted in the structure of the thesaurus, otherwise it is appropriate to decompose terms and to realise some cross-references. Nevertheless, the lack of precision related to this decomposing process and the finality of our realisation justify the presence in the thesaurus of such a term typology.

As far as concerns sources used for the extraction of terms to be inserted in the thesaurus, we have to add to the two already mentioned corpora, respectively formed by ISO norms and "disciplinari di produzione", a third corpus related to the transcriptions of those interviews submitted to the artisans. Since sometimes it has not been possible to prove the exactness of the "local" terminology, some "scope notes" have been often utilised in order to provide explications or justify some choices.

A parallel manual activity has been effected side by side with that previously described, consisting in automatic terms extraction, in order to deal with the peculiarity of the processed texts and also to function as a control group for the software extraction. Both extractions have been carried out separately for each one of the corpora.

Nevertheless, the evaluation of the obtained results using the two different procedures has demonstrated that a good amount of terms, certainly representative of the specific knowledge, were not automatically extracted since, due to the corpus dimensions, their occurrence was inferior with respect to the predefined threshold value.

In merit of this observation, we decided to generalise the extraction, even though this process requires a more extensive activity of manual cleaning of the terminological lists. One of the advantages offered by the software we have been using is represented by its specific vocation for compound terms extraction which make it appropriate for our specific use. The choice of terms that should be inserted in the thesaurus has been supported by a domain expert. He was shown the terminological list and he was asked to indicate those terms that, on the basis of his experience and knowledge, could be included in a tool for the representation of the domain knowledge. This activity has manifested a series of difficulties due to lack of contextualisation of the list. These difficulties were not remediable because of the expert unavailability for any activities of direct annotation on the texts. The choices made are in any case oriented towards terms which are as specific as possible.

To improve the results of this work, we are thinking to apply extend our Thesaurus into a domain ontology, to allow the semantic enrichment of the information search. Much work has been done in this direction, such as (Chrisment, *et al.,* 2006), (Wielinga, *et al.*, 2001) and (Van Assem, *et al.,* 2006), who describe the different methodologies used to convert Thesauri to OWL ontologies. This kind of transformation is motivated by the fact that Thesauri and Ontologies are very similar in some aspects: they describe a domain; include terms and relations between these terms; use hierarchies; are used by users in applications for information management for cataloguing and in search engines. In spite of these similarities, the need to extend a thesaurus into an ontology arises from the fact that thesauri are not characterized by a level of conceptual abstraction, so the difference between one concept and its lexicalization is not clearly established, and synonymy relations are established between terms but concepts are not identified. This is because thesauri do not have the objective of representing the world as it is, understood in terms of meaning, but in terms of terminology and categories for the manual indexing of the documents of a domain. As a consequence its semantic coverage is limited and terms relationships are vague and ambiguous. Their relations could include "is a" and "part of" relations, but the association relation is difficult to exploit because it connects the terms in their different types of semantic relations. Ontologies respect the relational principle of subsumption in the hierarchical organization of concepts, and describe in a better way the association relations between concepts.

Thesauri can be converted into ontologies in different ways. According to (Soergel, *et al.*, 2004), three kinds of methodologies of conversion are present in literature:

1. Analysis of an existing thesaurus and definition of the ontology structure;

    a. Relations disambiguation: e.g. TG and TS in the Thesaurus correspond to the IS-A relation in the Ontology;

    b. Elaboration of the Conceptual Maps and mapping between TS and Ontology;

    c. Decide the Ontology format: KOS, SKOS, OWL, etc.;

2. Alignment between concepts of the Ontology and terms of the Thesaurus

3. Manual editing of the ontology (Protégé or other tools).

Similarly (Van Assem *et al.*, 2003) divide existing methods to convert thesauri in 3 groups: conversion methods for specific thesauri; methods that convert thesauri to ontologies and methods that convert any thesaurus to RDF/OWL. For instance, (Chrisment *et al.,* 2003) in their work reuse the monolingual Astronomy Thesaurus for the elaboration of new resources with a higher level of formalization. Here terms are already identified by experts as representative of the domain. In particular, they used TERMINAE, a three step methodology, proposed by (Biébow and Szulman S., 1999). An alternative methodology is proposed by (Wielinga *et al.* 2001), who created an ontology for a subset of art-object descriptions (antique furniture), starting from the AAT Thesaurus. This is useful for indexing and retrieving image information using highly structured semantic descriptions.

Considering the above methodologies and all the possible conversions of existing thesauri, for our purpose, we are interested in an approach for converting our thesaurus into a domain and task ontology, taking as an example the work of (Soergel *et al.*, 2004), whose method can be synthesized in three steps: definition of the ontology metamodel; definition of rules to convert a traditional thesaurus (goldsmith handicrafts in our case) into the metamodel, introducing more specific kinds of relationships, and finally, manual correction. Here the main requirement is to refine the usual thesaurus relationships into more specific kinds of relationships, for instance, in our case, "*followed by*" (for specifying tasks), "*has instrument*", "has material", etc. An ontological knowledge base constructed according to these methodologies could be used for:

- Supporting learning and assimilating information;

- Assisting readers in understanding domain text;

- Assisting experts craftsmen and apprentices in problem-solving;

- Supporting information retrieval (providing knowledge-based support for end-user searching);

- Elicitation of user needs through a series of menus based on search trees, or through guidance in the conceptual analysis of a search topic (questions based on a facet structure, presentation of a segment of the concept hierarchy for each applicable facet);

- Browsing the classification structure to identify useful concepts for a search at the desired level of specificity.

In conclusion, the obtained result is surely a methodological structuring that can certainly be applied to the different contexts in which it is necessary, for various exigencies, to formalize tacit and consuetudinary knowledge in dimensionally modest domains, but with high added value. All this can be seen both in the light of capitalizing productive techniques and the creation of training programmes able to guarantee business inheritance. Furthermore, a particular field of application could be represented by the utilization of the present approach in all those contexts, which today originate massive migratory fluxes, in which the formalization of

productive processes is modest, also on account of limited development of the written form of the native language, with consequent limited expressive capacity on the part of the less educationally trained strata of society.

According to this point of view, we are evaluating the feasibility of the creation of a multilingual thesaurus which would not be the simple translation of the existent monolingual one. It would provide symmetric and equal structures for all the linguistic versions carried out and would not consider the variation of the terms number and of their structuring in the semantic network, typical of every linguistic context. The planning hypothesis is that of re-thinking, for every context of use, an independent relational structure which would be functionally connected to other equivalent but asymmetric structures, through a common semantic framework.

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Globalization and the Management of Information Resources
12-14 November, 2008

Open Access Preconference

11 November, 2008
10:00 a.m. - 4:30 p.m.

For more information, please contact Dr. Marta Deyrup at deyrupma@shu.edu

Morning Session

The morning session (10.00-12.30 P.M.) will deal with theoretical, policy and legal issues on open access in the European environment.

10:00 a.m.-11:15 a.m.

Robert Davies will describe the work being done under a new European Commission Best Practice Network to expose digital content held by libraries, museums and archives at local and regional levels in all 27 European member states for harvesting and re-use in line with the standards and architectures for interoperability being developed under the European Digital Library Initiative.

Speaker bio:

Rob Davies (MDR Partners) is Scientific Coordinator of the EDLocal Best Practice Network. He has been involved for a number of years in work to develop the role of public libraries and cultural heritage institutions in the delivery of services based on electronic content.

11:15 a.m. -12:30 p.m.

Srećko Jelušić will present on the development of the open access initiative in Central and Eastern Europe and its acceptance among libraries, researchers and publishers over the last five years. The open access initiative will be examined in the context of the development of an information and communication infrastructure. Jelušić argues that there is a radically different research environment in Central and East Europe and that these countries are on s ounder ground for the acceptance of open access than the rest of the world.

Speaker bio:

Srecko Jelušic is Associate Professor and Vice Rector at the University of Zadar, Croatia. His professional background is in publishing and library management. His Ph.D. is on l ibrary systems. Dr. Jelušić teaches research methodology and sociology of the book in the Department of Library and Information Studies at the University of Zadar. As vice rector, he is in charge of international relations, publishing and the Library. His research interest is in the

area of publishing and reading habits. He has published a book in the Croatian language on the structure of library systems. He writes articles concerning cooperation between publishers and libraries. He is active in organizing international conferences and round tables in the field of publishing and information science.

Afternoon Session

The afternoon session (1:30 - 4:30 p.m.) will deal with scholarly publishing models and praxis.

This session will provide an introduction to the Public Knowledge Project and an overview of the Open Journal Systems (OJS) online publication management software (http://pkp.sfu.ca/ojs). It will include an examination of the publishing process, peer review and editorial workflow, web site management, tips for increasing journal visibility, suggestions on recruiting content and editors, and a discussion of library-based publishing efforts at the University of Kansas and elsewhere. This half-day, hands-on workshop is aimed at editors, publishers, librarians, and others interested in learning about this free, open source software that is being used by over 1000 journals around the world. Participants will come away with the ability to start up and operate their own online journal management system.

Speaker bios:

M.J. Suhonos is System Developer, Simon Fraser University Library.

Brian Rosenblum is Scholarly Digital Initiatives Librarian, University of Kansas.

This session will be moderated by Dr. Gary Pitkin, Dean of Libraries and Professor, James A. Michener Library, University of Northern Colorado.

Катедра Библиотекознание, научна информация и културна политика-Софийски университет „Св. Климент Охридски“

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Щатски университет Емпория, Канзас, САЩ

ОРГАНИЗИРАТ

Международна конференция
"Глобализация и управление на информационните ресурси"
12-14 ноември, 2008, София
ПОД ПАТРОНАЖА НА ПРЕДСЕДАТЕЛЯ НА НАРОДНОТО СЪБРАНИЕ Г-Н ГЕОРГИ ПИРИНСКИ
Основен доклад на конференцията на кардинал Рафаеле Фарина, Префект на Ватиканската Апостолическа библиотека

В рамките на конференцията Ви ще се проведе предварителна конференция по проблемите на т. нар. „Открит достъп"

11 ноември, 2008
София
Софийски университет "Св. Климент Охридски"
Зала № 1
10:00 - 16:30 ч.

Сутрешна сесия

Сутрешната сесия (10:00-12.30 ч.) ще постави на обсъждане политиката по отношение на отворения достъп в Европа, както и теоретични и правни въпроси по темата.

10:00 -11:15

Роберт Дейвис ще опише извършената работа от наскоро създадената Мрежа за добри практики на Европейската Комисия (European Commission Best Practice Network) по отношение на притежаваните от библиотеки, музеи и архиви дигитални колекции и съдържание, както на местно, така и на регионално ниво във всички 27 страни-членки на ЕС. Целта на Мрежата е да се събере на едно място цялото създавано от различни институции дигитално съдържание и да се направи възможно неговото повторно/многократно използване съгласно унифицирани стандарти и архитектура, позволяваща интер-оперативност, разработени от Инициативата за създаване на Европейска Дигитална библиотека (European Digital Library Initiative).

Кратка биография на Роб Дейвис:

Роб Дейвис (MDR Partners) е научен координатор на EDLocal Best Practice Network. От години той е ангажиран с дейности, свързани с развитието на ролята на обществените библиотеки и институциите, имащи отношение към културното наследство, в доставка на услуги, базирани на електронно съдържание.

11:15 -12:30 ч.

Сречко Желюшич ще представи развитието на инициативата за открит достъп в Централна и Източна Европа и нейното възприемане от страна на библиотеките, учените и издателите през последните 5 години. Инициативата за открит достъп се анализира в контекста на развитието на информационна и комуникационна инфраструктура. Желюшич оспорва твърдението, че съществува радикално различна научно-изследователска среда в ЦИЕ и че страните от този регион са стъпили на по-стабилна основа за възприемането на открития достъп в сравнение с останалите страни от света.

Кратка биография на Сречко Желюшич

Сречко Желюшич е доцент и Заместник Ректор на Университета Задар, Хърватско. Кандидатската му дисертация е върху библиотечните системи. Д-р Желюшич преподава методология на научните изследвания и социология на книгата в Катедрата по БИН на Университета в Задар. Като зам.-ректор той отговаря за международните отношения, издателската дейност на университета и за университетската библиотека. Изследователските му интереси са в областта на книгоиздаването и читателските нагласи. Публикувал е монография на хърватски език върху структурата на библиотечните системи. Пише статии по проблемите на партньорството между издатели и библиотеки. Участва активно в организиране на международни конференции и кръгли маси в областта на издателската дейност и информационните науки.

Следобедна сесия

Следобедната сесия (1:30 - 4:30 ч.) ще се фокусира върху модели и практики на научно книгоиздаване. Сесията ще предложи представяне на проекта за обществено знание, Public Knowledge Project, както и преглед на софтуера за управление на онлайн публикации (Open Journal Systems (OJS) online publication management software (http://pkp.sfu.ca/ojs)). Ще се предложи изследване на издателския процес, процесите на оценка на научното ниво и качество на публикациите (peer review) и на редакционна обработка; управление и организация на уеб проектирането; ще се предложат идеи за увеличаване достъпа до електронни списания и лесното им откриване в уеб пространството; ще се обсъдят предложения за наемане на редактори и приемане на съдържание. Предвижда се и дискусия за издателската дейност на библиотеката на Канзаския университет и др. университети. Този полудневен уъркшоп, разработен на базата на предварително раздадени материали, е насочен към библиотекари, издатели, редактори и всички други, които се интересуват от софтуер за предоставяне на открит достъп до електронни ресурси, използван от над 1000 научни списания от цял свят. Участниците ще придобият знания, необходими им да стартират и работят със своя собствена система за управление на онлайн списания.

Кратки биографии на докладчиците:

М. Сухонос е софтуерен специалист от библиотеката на Университета „Саймън Фрейзър”.

Браян Розенблум е библиотекар, работещ по проекти за дигитализация ня научни пуб-ликации в Университета Канзас.

Сесията ще бъде ръководена от д-р Гари Питкин, библиотечен директор и професор по библиотекознание, Библиотека на Университета в Западно Колорадо.

За допълнителна информация вижте сайта на конференцията:
http://slim.emporia.edu/globenet/Sofia2008/index.htm