



International Information & Library Review

ISSN: 1057-2317 (Print) 1095-9297 (Online) Journal homepage: https://www.tandfonline.com/loi/ulbr20

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To cite this article: Marina Encheva, Polly Mukanova, Marchela Borisova & Silvia Naydenova (2019) New Forms of Literacy and Transformation of Reading Practices in Bulgaria, International Information & Library Review, 51:3, 275-283, DOI: 10.1080/10572317.2019.1629746

To link to this article: https://doi.org/10.1080/10572317.2019.1629746



Published online: 21 Jul 2019.



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GLOBAL POSTCARDS COLUMN

Jacqueline Solis, Director of Research and Instructional Services, University of North Carolina, Chapel Hill; Robin L. Kear, Liaison Librarian, University of Pittsburgh

COLUMN EDITOR'S NOTES

Welcome to the Global Postcards column! We are so excited to bring you news and projects from around the world. In this issue, a group of Bulgarian researchers looks at changing trends in reading and literacies as more research content is available in digitized and electronic formats.

If you would like to send a submission for a future column, please contact either of the column's co-editors: Jacqueline Solis, jsolis@email.unc.edu, and Robin Kear, rlk25@pitt.edu.

New Forms of Literacy and Transformation of Reading Practices in Bulgaria

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ABSTRACT

The study presents the results of a survey on the reading practices in Bulgaria based on upto-date library statistics. The statistical data cover the dynamics of using the traditional library collections and the databases in the Bulgarian National Library and the Library of the Bulgarian Academy of Sciences. The study found that reading habits have been transformed due to changes in the information environment. Terms like "digital" and "mobile literacy" have emerged underlying the differences in user experiences and technical skills that are required when using new technologies to locate, evaluate, and use information. Reading in the library is regarded in the study as specialized reading with its institutional characteristics. Common tendencies and features in the change of reading practices have been established by using quantitative methods based on comparative analysis. These quantitative methods help in determining the changes in reading practices as a result of the development of technology, thus leading to new forms of literacy. There is a productive interaction between reading practices and the introduction of new technologies. The results of the study can help in defining the role of the library in this process, and predict future tendencies.

KEYWORDS

Bulgaria; library statistics; literacy; national library; new technologies; reading practices

Introduction

The development of new technologies has led to dynamic transformations in libraries. In order to be competitive and to effectively perform their role of cultural and educational centers, libraries have had to transform the services they offer. The most important changes in the library environment are related to the proliferation of the number and variety of electronic resources. We could expect that this lasting tendency will motivate library users. But do they really feel comfortable in this changed situation or do they meet some difficulties when interacting with the electronic databases? What is the level of their information literacy? One of the most reliable ways to answer to these questions is by using library statistics. This is a certain track that also gives indicators for the progress of technologies and their implementation in library services.

The hypothesis of the study was that reading habits have been transformed due to the changes in the information environment and the need for better level of the information literacy of the users emerged. There are many definitions of "information literacy" (UNESCO, ALA, Zurkovski, Christina Doyle, Horton, Bruce, etc.).

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But common characteristics referring to any person can be summarized as follows:

- Defining the scope of the information needed.
- Effective approach to necessary information.
- Critical assessment of information and information sources.
- "Inserting" new information into one's own sphere of knowledge.
- Using information to achieve one's own aims.
- Awareness of different aspects (legal, social, economic), related to using information including ethical ones.

While most of those skills are arguably constant in many cases, skills like accessing the needed information, evaluating its sources, and using information effectively, are directly related to the platform or the type of device that is being used. This has led to terms related to information literacy like digital and mobile literacy, which underlines the differences in user experiences and technical skills that are required when using different technologies to locate, evaluate, and use information (Encheva, Zlatkova, Ozdamar-Keskin, & Vatansever, 2017).

Digital literacy refers to the ability to use information effectively, in all formats, in a largely digital information environment. Its central theme is the ability to synthesize and integrate information from varied sources. This is a vital "life skill" for everyone today. The promotion of digital literacy in all environments is an important task for librarians and information specialists. A wide variety of methods has been used for training, teaching, and promoting digital literacy. To a large extent they follow on from "user education" or "bibliographic instruction" in library settings (Bawden & Robinson, 2012).

Methodology

The main purposes of this study are to analyze the information literacy of the library user in Bulgaria and the existing reading practices, to formulate problems if they exist, and to offer some suitable decisions. For achieving these purpose the following tasks have to be solved: to study the usage of traditional materials and of electronic databases in two of the biggest Bulgarian libraries – the National Library and the Library of the Bulgarian Academy of Sciences (BAS); to outline the preferences of the users for the different type of resources (traditional or electronic), to analyze their interest in the different types and thematic coverage of databases. The following methods have been used in the research: observation, analysis and synthesis, and comparative study. The major tools for the analysis are the library statistics of both libraries.

We met the following challenges in the course of the research - in comparison with the National Library, for the preparation of the statistics about the usage of resources in the Library of BAS more time is required. The reason for that is related to the fact that this institution is the main library of a complex system of branch libraries. That's why it was not possible to use statistics from one and the same year in both libraries (for the Library of BAS the data covered 2016 and for the National Library it was about 2017). The other peculiarity is that the libraries in Bulgaria do not follow common principles when doing their statistical reports, so the used indicators are different, especially when the use of electronic resources is analyzed. However, even in such cases our vision was that we will manage to outline the major tendencies in the reading habits and the transformation of information literacy because both libraries have many similarities as a type and a size of the institutions and are suitable for comparison. Both libraries have an academic profile and give the chance for real comparison of their users in this aspect. The largest full-text databases in both libraries showing the tendencies in utilization of digital resources have been chosen.

Results

As we already specified, for the purposes of the study we made statistical analysis of data on different indicators concerning the usage of traditional and electronic resources in two of the most important libraries in Bulgaria. Both libraries have different periods of reporting and in the course of the analysis we use different kind of data to outline the dynamics in the reading habits.

Based on data from 2017 the holdings of the National Library "St. St. Cyril and Methodius" total 8,040,804 items (including 1,800,450 books; 1,556,395 continuing editions; 210,931 graphic documents; 13,195 cartographic documents; 5567 manuscripts; 3,129,418 archival documents; 7209 electronic documents). The following databases are offered to the library users: ScienceDirect, SCOPUS, Web of Science, EBSCO, EMERALD, Gale Virtual Reference Library, etc. According to the data from the same period the general collection of the Library of the Bulgarian Academy of Sciences consists of 1,919,626 items (including 1,038,021 books, 854,491 periodical publications, 27,114 special editions, 3477 current periodical titles. The Library provides access to the following databases: ScienceDirect, SCOPUS, Web of Science, EBSCO, SpringerLink, JSTOR, etc. Some of the electronic databases in both libraries are available through the national license (subscription) paid by the Ministry of Education and Science (ScienceDirect, SCOPUS, ISI Web of Knowledge), others are available as a result of the library's own agreements with the vendors (EBSCO, EMERALD, Gale Virtual Reference Library, SpringerLink, JSTOR, etc.).

If we look at the statistics from the National Library for the period February-August 2017 concerning the number of borrowed items, reserved titles, and items with renewed term of usage, an interesting tendency can be outlined. With regard to the last two categories of items we notice a sustainable trend, while concerning the number of the borrowed items there are significant variations in the different months. The National Library offers access to various electronic databases – as we mentioned above some of them are available through the national license, while others are used via the library's own subscription or through trial access. Unfortunately, the availability of some electronic databases is temporary and sometimes problems with the payment in the framework of the national license appear. For that reason, some of the electronic databases are not accessible during the whole calendar year. As the typical users of the National Library are scientists, professors, and students who have a strong interest in using high quality up-to-date scientific information accessible through the electronic databases, during the periods when such access is not available, the usage of traditional sources increases.

Figure 1 presents the use of Web of Science database at the National Library for the period January-May 2017. Web of Science Core Collection (1985-present) provides access to the leading scientific literature in all thematic areas as the retrieved results consist of bibliographic information, abstract, citations, and references. The indicators here present the users' activity from more common to concrete activities on the platform and are as follows: sessions, subsessions, queries, result clicks, record views. It is obvious that the numerical values are unsatisfactory for a half year period with 74 sessions, 536 result clicks and 346 record views. The possible explanation for this is that Web of Science is a scientometric database (represents visually the citing relations through map of the citations and documents the citing activity and tendencies graphically through report of the citations). It is of interest mainly for scientists which reduces the number of the potential users. The average user is also interested in the full-text articles which are not offered by



Figure 1. Usage of Web of Science Database – National Library of Bulgaria.



Figure 2. Usage of SCOPUS Database – National Library of Bulgaria.



Figure 3. Usage of EBSCO Database – National Library of Bulgaria.

this database. The other possible reason for the weak interest of the users could be that the effective usage of such databases requires higher level of information literacy and the library should organize suitable training sessions which is not among the priorities of the National Library.

Figure 2 presents the usage of SCOPUS database at the National Library for the same period. SCOPUS is the biggest reference and citation database indexing reviewed sources. It covers the following thematic areas: Life Sciences, Health, Physical Sciences, Humanities and Social Sciences. The data outlines a picture similar to Web of Science - the search sessions are more (205) but the result clicks and the record views are fewer, respectively, 536 and 346. Both databases use analytical tools for identifying the tendencies and the models in the online scientific communication. The reasons for the insufficient interest in Scopus are similar to these related to Web of Science.

The usage of EBSCO database in the National Library is presented in Figure 3. The host provides access to 5 multidisciplinary and specialized databases with full-text and bibliographic reference information. They cover 8500 full-text journals, from which 7300 are peer-reviewed, and offer scientific information from almost each area of knowledge. The larger number of searches in EBSCO in the period January–May 2017 (3762) in comparison with Web of Science (424) and SCOPUS (205) can be explained by the predominant number of full-text articles offered by EBSCO host. The interface is more user-friendly and intuitive compared with the other two scientometric databases analyzed. The necessity of training sessions and the need for improvement of information literacy is not so essential as in Web of Science and SCOPUS databases.

The statistical data for the period January–May 2017 with regard to the usage of other electronic databases at the National Library – EMERALD, Gale Virtual Reference Library, East View, etc. is relatively high. The possible explanations for this is on one hand the fact that the majority of articles offered by these platforms in full-text and on the other hand – the access to e-books provided by EMERALD.

"Combined reading"

We can see collaboration between traditional reading and bibliographic resources, e.g. a

bibliographic database combining the methods of using traditional repertoire with the online bibliographic system COBISS (National Library platform). One of the current projects of the Library Studies Department at the University of Library Studies and Information Technologies (ULSIT) represents this vision. It aims to create a methodology for digitization and to digitize the retrospective bibliography (repertoire) of Bulgarian Revival books from the beginning of the 19th century until the Liberation of Bulgaria in 1878. The fundamentality of the research is determined by the fact that the currently existing printed versions of the bibliographies differ in structure, quantity, and content which does not allow a fast and reliable analytic processing of the bibliographic information (Zagorov & Encheva, 2017).

The statistics presented in Figure 4 shows the usage of traditional sources at the Library of Bulgarian Academy of Sciences in 2016 in the different fields of knowledge according to the Universal Decimal Classification. The data present the number of borrowed materials as well as those used in the reading rooms. It is noticeable that the largest number of library materials used is in the field of humanities - history (1702), literature (1146), archeology (1108), literary studies (709), arts (511), and linguistics (427). The reason is that the coverage of the electronic databases offered by the libraries of Bulgarian Academy of Sciences is predominantly in the field of Sciences (mathematics, physics, medicine, biology, chemistry). The available collection of electronic sources in the Humanities provided by JSTOR is an archive of electronic sources and does not cover the most up-to-date publications. Readers compensate for the lack of access to a sufficient number of electronic publications in the humanities and to the newest scientific articles in this field with the usage of traditional books and journals at the Library of the BAS.

If we put in parallel the statistics regarding the usage of Web of Science database at the National Library and at the BAS Library, we will be impressed by the significant difference between the queries in the database. The reason for that is that the readers of the BAS Library are more informed and qualified to use electronic databases thanks to the regular training sessions organized by the Central Library of BAS. In the Web of Science (Figure 5), for which the Bulgarian Academy of Sciences has a national subscription, there are full-text articles with a broad thematic scope (physical and engineering sciences, life sciences, medicine, social sciences and humanities) and it provides access to the world's leading scientific literature.

The readers' profiles of the Library of the BAS are mainly scientists, researchers, and students, and this suggests the need of usage of full-text articles, so that the number of queries for fulltext articles here is definitely high if compared to the National Library. It is obvious that the numerical values are substantial for a whole year period with 33,242 queries, 28,558 result clicks and 10,323 record views. The possible explanation for this is that there is a report of the citations which is important for the scientists. The effective usage of such databases requires a higher level of information literacy and the library organizes suitable training sessions among researchers.

There is a productive, conceptual interlink of reading and digital literacy, and a tendency in the learning community to improve traditional reading and writing skills, which is somewhat paradoxical in the era of digital devices (Parizhkova, 2017). More generally, this interlink has long changed the look and functionality of the library, which is nowadays a reservoir of digital resources.

In the two charts below (Figure 6), which present data from the same year of use (2016), the user's interest in one particular database such as Science Direct and other databases, which are offered by the national subscription, can be traced. Science Direct is one of the largest databases, which contains over 2500 journals and over 20,000 books in various thematic areas of science. As with other databases, search is performed in the reading room of the library offering the resources.

The data in Figure 7 present the usage of other electronic databases at the BAS Library – EBSCO, APS Physics, JSTOR, etc. In these databases, search activity is high.

A possibility exists for library users to simultaneously search the integrated library catalogs,

Sections according to the			lotal
Universal Decimal Classification	Borrowed	Used in a	
onversal beennal classification	Materials	Reading Room	Library of BAS
0. Common Section		650	650
1. Philosophy	26	84	110
2. Religion	6	32	38
31. Sociology	44	67	111
32. Politics	24	107	131
33. Economics	231	108	339
34. Laws	144	65	209
35. Management	78	37	115
36. Social Care	44	23	67
37. Education	20	17	37
39. Ethnology	91	320	411
502. Nature	6	41	47
51. Mathematics	34	49	83
52. Astronomy		31	31
53. Physics		45	45
54. Chemistry		37	37
55. Geology	7	21	28
57/59. Biology	7	55	62
61. Medicine	34	15	49
62. Technics		10	10
63. Agriculture		7	7
64. Communal Services	15		15
65. Enterprises	118	30	148
66/68. Chemical Industry		2	2
69. Construction	32	17	49
7. Arts	188	323	511
78. Music		73	73
79. Sport 80. Linguistics	67	12	12 427
82. Literary Studies	159	550	709
820/99. Literature	770	376	1146
902. Archaeology	28	1080	1108
91. Geography	26	60	86
97. Biographies	26	46	72
93 History	132	1570	1702
23. Thistory	152	1570	1702
TOTAL	2 357	6 320	8 677



Figure 5. Usage of Web of Science Database - BAS Library, 2016.



Figure 6. Usage of Science Direct Database – BAS Library, 2016.



Figure 7. Other databases usage – BAS Library, 2016.

the digital collections, as well as subscribed databases and periodicals of the NALIS (national catalog of academic libraries in Bulgaria) founding libraries and its associate members. The dominant presence of both libraries in the possession of digital collections shows a transformation in the readers' practices and the traditional reading.

In Figure 8 you can see the total number of digitized documents (15,974) in the union catalog of NALIS. It is also noticeable here that the three main collections of digitized documents are in possession of Sofia University Library (4882), Library of BAS (3569) and National Library (2633). There are relatively equally represented. They can also be considered as the largest and most important group of academic libraries in Bulgaria. As for the second group, in it there are fewer digitized documents that are from the libraries of smaller private universities - the American University in Blagoevgrad (610) and the New Bulgarian University (397), which have the most numerous subscriptions for databases. The Plovdiv Public library has the smallest digitized collection of documents (95). It is

important to know that the data presented are from 2016, which shows the growing level of use of electronic documents and the increasing information literacy among academics. In recent years, in every university in Bulgaria introductory courses on information literacy are required regardless of the main discipline, mainly aimed at search in databases that libraries themselves offer. An important factor is the wide availability of digitized resources because they are Web-based and can be used outside of the library – unlike databases with special access.

Different documents in the two major groups of information resources must also be considered – in the digital libraries, mainly valuable, rare and older documents are accessible, while in the databases most of the resources are current.

Based on the statistics discussed, it can be summed up that there is a growing usage of digital documents especially among academic libraries whose users are students, professors, and researchers. Electronic databases are a more and more important component of the system of higher education and the academic promotion (Eftimova, 2009). This is related mainly to the



National Academic Library Information System

edizitized documents = Sofia University = BAS = NBKM = AUBG = NBU = Plovdiv Library



so-called impact factor and peer-reviewing in journals. That is why one of the basic criteria for prestige of an academic forum is namely the consequent publication in reviewed journals. This mechanism also leads to mandatory use of materials from databases with proven value.

This link shows the tendency toward a growing influence of information sources and online reading, which gradually but in a fast pace replaces traditional resources through their digitalization, shown in NALIS or databases which distribute electronic resources.

Conclusions

- 1. Those quantitative methods help in determining the changes in reading practices as a result of the development of technology, which requires new forms of literacy. One of them is the use of databases – most often academic resources – requiring users to have a high level of information literacy. This is the most progressive way to track the pace of digital collections. These are also the new forms of digital literacy included in the field of education and in the broader sphere of social life.
- 2. The possession of digital collections shows such a transformation in reader's practices and the change of traditional reading. This is most strongly presented in the use of databases with information resources, especially with regard to

the academic libraries. The statistical data accurately accounts for the frequency of use and the tendency, related to information literacy and digital reading. This transformation in the case studied proves that with the most educated users the trend is the fastest in terms of traditional use of resources.

- 3. There is a productive interaction between reading practices and the introduction of new technologies as a result of which a new kind of reader appears. As it is seen from the results, information literacy is directly related to the ability to productively use databases using the new technologies. This is only the beginning of a large-scope research of the new forms of literacy that are already part of the library environment, and more precisely, of the use of academic libraries, where databases are a mandatory informational resource and the readers are constantly improving their digital competences.
- 4. Among these new forms of literacy the mobile literacy is of special interest for our further research as it provides a comprehensive introduction to literacy pedagogy within today's new library environment. It focuses not only on text literacy (reading and writing), but also on other modes of communication, including oral, visual, audio, gestural and spatial literacies (Encheva, Zlatkova, Tammaro, & Brenner, 2019). The information literacy skills base of

the library users has been broadening in the mobile environment. This growth has occurred in response to the exponential increase in both the number of information channels that can be accessed, and the amount of information that flows through them.

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