

# **MODERNIZATION OF THE LIBRARY AND INFORMATION SERVICES FOR RESEARCHERS IN THE REPUBLICAN SCIENTIFIC AGRICULTURAL LIBRARY**

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The genuine mission of the university library has always been and still remains to support learning. The orientation of higher education towards internationalization as well as increased competitiveness in the academic environment strengthens the importance of research-based education. The scan of the university research environment and of the university curricula highlights the growing interest for research. Thus, in recent years research has become essential in order to meet excellence criteria in higher education, respectively, it represents one of the strategic objectives of the universities in the Republic of Moldova.

University libraries have always supported research in various ways. Unfortunately, nowadays, they are facing new challenges of changing the research paradigm, with special emphasis on the amplified processes of communication in science, the need to increase the visibility of the university scientific output, increased demands on measuring and evaluating the performance of scientific research, the urgent need for the exchange of knowledge regarding research information, etc.

Librarians activating in research and education institutions should determine and understand the changing trends in the field of research, the importance of visibility and performance of research and the completely changed role of librarians in the research cycle. In order to support researchers, the library is always seeking innovative ways, is exploring and developing new services that go beyond the traditional offer of library services.

There is a need for visible changes in all aspects of library activity. University libraries should promote innovations, quality practices, concomitantly being actively involved in generating their own new products and services: specific to the community served, personalized, focused on

the users' needs and placed always at the center of all activities. In this regard, these products and services will perfectly fit into the process of study and research, only under the conditions of effective cooperation with the teaching staff, departments and faculties.

Qualified librarian support is one of the most motivating factors for users who come to the library. The library should achieve outstanding performance in all aspects of its activity in order to provide quality services to the users, which requires continuous training and full involvement of the employees in achieving the quality objectives of the library.

Only increasingly advanced information skills will help to meet the academic requirements of the university curricula, therefore the competencies related to Information Literacy represent the first step towards achieving the educational goals of students. Training in the field of Information Literacy should become a fundamental professional practice developed by the academic libraries. Libraries should expand their Information Literacy programs in order to take into account employers' requirements. Being the primary providers of Information Literacy training, university librarians can significantly contribute to graduates' adaptability and flexibility to new challenging situations and consequently to the evolution of their professional development.

In recent years, visible actions focused on the reconsideration and modernization of the library services have been carried out in the context of involving university libraries in international projects, such as the project „Modern Information Services for Quality Education” co-funded by Tempus programme and the project „Modernization of university library services in Moldova” co-funded by the Norwegian Cooperation Programme with Eurasia in the field of higher education, carried out in the period 2016-2019. Both projects contributed to the development of librarians' professional skills, abilities and competencies and to the implementation of new services and opportunities for users.

The opportunity to access new information sources through the databases offered by the projects was promoted through presentations to the SAUM (State Agrarian University of Moldova) scientific community and agricultural research institutions, as well as within various events such as: the International Open Access Week, the „Day of scientific databases” and other public activities, through the dissemination of promotional materials, flyers, etc.

The library assumes an increasingly active role in the process of scientific communication by offering bibliometric services [6], the

bibliometry evolving from a subdiscipline of library science and information science to a tool used for the evaluation and comparative analysis of the visibility of scientific research output and university research activities [2,3,7]. Due to these services, libraries provide bibliometric information to various segments of the academic staff: individual researchers, groups of researchers, university structure (faculty, department and laboratory). At the same time, libraries also provide bibliometric services to decision-makers at the university level in determining the position of the institution in various world university rankings and top positions.

The bibliometric services offered by the Republican Scientific Agricultural Library (RSAL) include the following activities:

- Establishing the status of scientific journals (ISI listed or indexed in databases);
- Identifying potential journals for publishing articles in a particular field;
- Carrying out bibliometric analyzes of researchers' publications;
- Establishing the Hirsch Index of Authors;
- Providing assistance to researchers regarding the personalization of the scientific output in the Scopus database;
- Training and developing the skills of using the scientometric databases;
- Consulting on the evaluation of scientific publications, the calculation and interpretation of bibliometric indicators for journals, articles, authors, institutions and faculties;
- Determining university position in the international reference rankings.

A bibliometric service provided by the RSAL is carrying out bibliometric analyzes of researchers' publications through the Scopus database (Elsevier), which includes a volume of over 50 mln records and has 100% coverage of ISI journals. The bibliometric analysis supposes the identification and presentation of quantitative indicators regarding author's publications by the years of publication, field and type of publication, sources of publication and citations of the author's publications.

Also, the researchers could be helped to find out the Hirsch Index, which is an indicator expressing the value of researcher's activity according to the number of citations of the articles he/she has published. The Hirsch Index was proposed by the physicist Jorge Hirsch of the University of California (USA) in 2005 and was immediately adopted by the international scientific community. Thus, the index becomes an important tool for evaluating the scientific results of researchers and academic institutions and also a criterion for quantifying their scientific impact.

Librarians assist researchers in using the Scopus database, informing them of the possibilities and facilities offered by this database, such as: setting up a personal account by which each researcher can save his/her articles of interest, the searches and bibliographic references carried out; subscribing to the „alerts” service, which generates an e-mail to the researcher whenever a new article appears that satisfies a set of criteria defined by him/her; subscribing to the „articles-in-press” service, which allows to view the publications that are appearing.

An important aspect of librarians’ duties in the context of providing bibliometric services is the training and development of researchers’ skills in using scientometric databases. In this aspect, the library effectively cooperates with both the Department of Science and Innovation of the university and with the Directorate of Science, Vocational Training and Rural Extension of the Ministry of Agriculture, Rural Development and Environment of the Republic of Moldova. The library, in collaboration with the Department of Science and Innovation of the university have launched a program for the scientific community on the topic „Evaluating the results of scientific research”, which was promoted by all the university departments and faculties. According to the program, the problems and opportunities for evaluating scientific results are widely addressed through the scientometric databases: Web of Science (Thomson Reuters), Scopus (Elsevier), Science Index (eLibrary.ru) in order to disseminate research results and to improve scientific communication.

RSAL, having the status of a republican information and documentation center in the field of agricultural sciences, has established as a clear purpose to offer a framework for promoting and debating the problem of evaluating the research activity with emphasis on the scientometric databases for the research staff employed in the scientific institutions relating to the field of agriculture. The activities carried out in partnership with the Ministry of Agriculture, Regional Development and Environment of the Republic of Moldova had as target audience both researchers from scientific research institutions in the field of agriculture, as well as representatives of the ministry. The purpose of these activities was to present the international scientometric databases: Web of Science, Scopus, Science Index, the national bibliometric instrument, as well as to present the criteria for evaluating the journals and the publication requirements of a scientific article.

The tutorials represent an online support developed by the library for the informational support of researchers. This product consists of a set of information materials covering various important and useful topics in the research activity, such as:

- ✓ How to choose a suitable journal for publishing a scientific article?;
- ✓ Library supports the learning, education and research;
- ✓ Library - your partner in education and research;
- ✓ Quality Open Access Market - a tool for testing the quality of scientific journals etc.

The key aspects of today's research environment aim at increasing the demand for digital content, developing and managing data sets, developing metadata standards for efficient access to information, determining the evolutions in scientific communications, stating funding requirements for multidisciplinary international research with open access mandates etc.

As authors, the researchers face the continuous challenge of distinguishing their own activity products from the scientific investigations of other scientists with similar names. In order to achieve this purpose, it is essential that the results are accurately identified and attributed to the corresponding author, institution, publisher or financier. Finding all the publications of a researcher can be quite difficult if the author has signed with different variants of the name, changed the name during his/her professional career or has a double name. One solution to this would be to use a unique name throughout the entire publishing activity. The problem of ambiguity (incorrect identification) of the author's name by the research community can be solved through author identification systems, such as ORCID, ResearcherID, Scopus Author Identifier, etc., which generates a permanent and unique digital identifier (ID) to each author [4]. In this context, the library assists researchers in using the tools to identify authors.

Also, the library comes to the aid of the researchers when selecting the means of publishing the research results, especially given the fact that a lot of studies and scientific journals are published all over the world and there are reported multiple cases of deceptive publishing [5]. Therefore, selecting a relevant journal for publishing manuscripts or articles becomes a difficult and challenging exercise for researchers. The problems that may arise in relation to the choice of the scientific journal are caused, to some degree, by the lack of editorial ethics of the so-called „false scientific journals” (predatory journals).

Among the general criteria that should be considered when selecting a journal for the submission of manuscripts, we'll mention the potential impact of the journal (its visibility and prestige), the area of interest of the journal, indexing in databases, the impact factor of the journal, the

length of time between submission and publication of the manuscript, review process, etc. [1].

The library has developed its own concepts, programs, teaching resources and tools that it uses in developing the knowledge and skills of students, teachers and researchers.

The new practices, experiences and computer applications assimilated during the training activities have proved to become a very important educational support, being integrated in the professional training programs of the library staff. At the same time, they have had the effect of expanding and integrating new innovative aspects in the programs related to Information Literacy of the library. The program for researchers „Scientometrics. Open Science”, held jointly with the University’s Science and Innovation Department, includes presentations at the University’s Scientific Council meeting, within the campaigns promoting open access, individual and group presentations for the teaching staff at university departments, at the Francophone University Centre etc. The topics presented by library’s staff refer to such aspects as: academic writing, the structure of a scientific article, the presentation of references, the citation of publications used by authors and bibliographic management tools. Among other topics we could mention: scientometric databases, databases with open access in the field of agricultural sciences, access to specialized databases to which the library has access, the institutional repository, opportunities for information and documentation provided by the Primo platform, etc.

The library tends to integrate into the research process in order to support researchers throughout the life cycle of the research. In this context, a recent subject of study of the library staff concerns the management of research data. The importance of this topic in the research environment is increasing due to the changes regarding the sharing of research data. Various researches show that open data provide researchers with an increased number of citations. At present, this issue is present in Information Literacy program of the library for researchers as a special topic. As a result of the study it is intended to implement a distinct program for researchers on this topic, which has been addressed in articles and communications at scientific meetings.

Thus, the library could get involved in the management of the research data by actively participating in the development of the institutional policy for managing the research data, assisting the faculties in data management and developing the management plan, providing metadata services for

research data, providing data storage services in digital archives and citing research data, etc. Library involvement in the research data cycle would facilitate the exchange and reuse of data for future research projects ensuring long-term data retention for future researchers, reducing the risk of data loss, increasing the responsibility and integrity of research.

Under current conditions, the university library should become a key intellectual center of the university community with permanently improved services through high-performance technologies. The Republican Scientific Agricultural Library of the SAUM considers the participation in national and international projects as an opportunity of major importance for the university libraries contributing to the modernization of the library and information services and to the dissemination of the best practices with considerable impact for library users, for the exchange of experience and for updating of the professional skills of the library staff.

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