

Drawing an Evolution Map of Open Access Universities and Research Literature Platforms: A Comprehensive Study of Academic Landscape in Senegal as an Example

Pranjali Vatsalaya

Doctoral student, Laboratoire de Recherche en Sciences de l'Information et de la Communication (LARSIC) Ecole de Bibliothécaires, Archivistes et Documentalistes (EBAD)

Ecole Doctorale Etudes sur l'Homme et la Société (ETHOS) Université Cheikh Anta Diop (UCAD)

vatsalaya@auf.org

vatsalaya.pr@live.fr

Abstract: *This article provides an overview of the various open-access university and research document platforms in Senegal. It reviews the history of national scientific research systems in Senegal, from the first databases and national collective catalogues to the open access platforms we have today. The aim of this study is to describe and explore the various documentary platforms and digital projects for developing open-access scientific and technical information in university and research institutions in Senegal. In conclusion, recommendations are made for better practice in disseminating and promoting research and scientific production in Senegal, after having clearly identified the specific aspects of networking libraries and collective catalogues.*

Keywords: Collective catalogues; free access; open access; scientific documentation; Senegal

1. Historical background

At the end of the congress devoted to the UAP held in Paris in 1982, the recommendation was made to set up a project: "The pilot project relating to the design and development of a national policy and a national acquisition system". This was the wording of the test by which UNESCO put the idea into practice by including it in its 1984- 1985 budget. The aim of this project is to study how to implement a national plan to improve access to publications and to draw lessons from it that can serve as a model for other countries called upon to apply it". Senegal was chosen as the country for this project, with the National Archives as its host institution. It was in this precise context, and in accordance with a decentralised project organisation system, that the Central Library of the University of Dakar signed a contract with UNESCO on 11 April 1986, committing it to : "to establish, as part of the pilot project on universal access to publications (UAP), a union catalogue of periodicals currently received by the main libraries in Senegal". This printed catalogue also exists in a card version, so that it can be regularly updated, and will be automated at a later date.

This working tool, the fruit of a fine collaboration between twenty-six (26) libraries, is also part of the overall guideline of a desire for coordination and cooperation maintained by the heads of all the documentary institutions in Senegal. Indeed, in the face of the crisis that is hitting each institution hard and reducing the resources of each of them, and in the face of the need to make information as accessible as possible in our countries, information that must be considered more than ever as a raw material indispensable to the development of our populations, it has become urgent and imperative to hunt for, acquire and circulate this information, to exchange and share our resources, to create

and structure internal networks, in order to establish a good national documentary policy, the basis for good regional and international cooperation.

Phase 2 of UNESCO's pilot project in Senegal on universal access to publications (UAP) provided for the input on microcomputers, after updating, of the data listed in the first edition of the Catalogue collectif national des publications périodiques courantes reçues dans les institutions documentaires du Sénégal, published in 1986. This second edition, which is also available on diskette, constitutes the CANAPE database, the first documentary database to be set up at the Central Library of the Cheikh Anta Diop University in Dakar. This event deserves to be highlighted. It marks, in a decisive and irreversible way, the introduction and use in the documentary services of the Université Cheikh Anta Diop de Dakar, and in particular in the Central Library, of the most modern technologies for the processing, management and dissemination of the University's documentary heritage.

ICTE has changed traditional university teaching by dividing the university into a face-to-face campus for teacher/student teaching, and a distance campus where teacher and student are linked by the technological tool, which thus becomes an essential object for the transfer of knowledge, from teacher to learner, and between learners, whose interactions it stimulates (Diouf, 2014).

2. Research Interest

University libraries in French-speaking African countries are facing a challenge in terms of documentary provision in a context marked by a lack of financial resources, rising documentation costs, and certain inefficient organisational forms (Kane, 2018).

Faced with this situation, each library or documentation centre tries to adapt by implementing a tool for research and access to scientific and technical information for its users.

This article, which aims to provide an overview of all the university and research document platforms and portals in Senegal, will promote these initiatives (tools and platforms) and contribute to the visibility of the documentary institutions concerned in order to facilitate access to information.

Objectives

The general aim of this study is to describe and explore the various open-access document platforms in university and research institutions in Senegal.

One specific objective that seems to be emerging is the description of projects to promote university and research collections.

Issues

According to Mazens (2015), a documentary network can be made up of individuals or institutions that come together around shared documentary objectives and work together to offer the public collections and services. Organised around meeting users' needs, the documentary network is created to pool skills and enable actions to be shared.

Collective catalogues, yes. But to record what, in what libraries, with what geographical coverage, on what media, for what users and with what conditions of access?

It is to this main issue and these various questions that we will attempt to shed some light in this article.

3. Methodology

It began with a review of the literature and a study of what already exists in order to draw up a list of open access document platforms in the higher education and research environment.

A questionnaire on the use of digital technology in documentation practices in higher education libraries in Senegal was sent to librarian and documentalists colleagues in Senegal's higher education and research institutions. The

questionnaire focused on dissemination and open access practices.

The joint documentation service/UCAD

Created by decree no. 95-197 of 21 February 1995, the joint documentation service comprises all the libraries under the supervision of Cheikh Anta Diop University in Dakar:

- Drawing up and implementing the university's documentary policy, and coordinating and managing the resources needed to implement this policy;
- To research, acquire, process, conserve and disseminate the scientific and technical information needed for university teaching and research;
- To participate in the development of university research by collecting and disseminating its results in Senegal and abroad;
- To encourage joint use of the resources available in the university's various libraries by coordinating and harmonising their technical and professional activities;
- To promote documentary cooperation at national and international level with libraries and other information services working towards the same goals;
- Train users in documentary research techniques in conjunction with the university's teaching and research establishments;
- Ensuring the ongoing training and development of the university's library staff;
- Promote and participate in the university's cultural and scientific mission.

This network has one (1) focal point (the Central Library) and 16 libraries attached to faculties, institutes or departments, one (1) media library (CESTI) and one (1) photo library (IFAN).

The digital library¹ at Cheikh Anta Diop University (Dakar)

The BUCAD Digital Library includes several collections of documents:

- Theses and dissertations deposited in the library since the creation of the university on 24 February 1957,
- Articles published by teachers and researchers at the University,
- University publications.
- Rare and precious works.



Figure 1: BUCAD digital library

The Assane Sèck University Virtual Resource Centre [Université Assane Sèck de Ziguinchor (UASZ) is a public higher education institution located in Ziguinchor in the Casamance region of south-west Senegal]. The Virtual Resource Centre is a digital platform [The platform can be accessed at: <https://rivieresdusud.uaszn.sn/>] for those involved in local coastal development. Its aim is to bring together, organise and promote the knowledge produced on the coastal regions (Senegal, Guinea Bissau and Guinea) and to collect and disseminate the publications of UASZ teacher-researchers and students.

The virtual resource centre enables all development professionals (experts, NGOs, decentralised government

departments), local decision-makers (elected representatives and local authorities), students and teacher- researchers and development partners (donors, decentralised cooperation, OSIM, etc.) to obtain a set of solid, up- to-date references on the region, and to contribute to the creation of knowledge on the area.

This platform is a space for information, sharing and awareness-raising on various territorial issues, particularly Governance, Natural Resources and Vulnerabilities, Human Mobility, Economic and Social Development, etc. This resource centre was created in partnership with Grdr and AFD funding.



Figure 2: Assane Sèck University of Ziguinchor institutional repository

The CAMES Institutional Repository

DICAMES⁴ is the institutional digital archive of the African and Malagasy Council for Higher Education (CAMES), a platform that aims to preserve and disseminate all the scientific output of French-speaking African countries. This production is freely accessible.

This site brings together various resources designed to support the operation of DICAMES, the CAMES open scientific archive. It is aimed at the CAMES team, librarians at partner universities, experts who check the quality of

deposits, authors who wish to deposit their work and volunteer depositors who want to help build this showcase for African science.

From the outset, the main aim of this project to create a pan-African open scientific archive was to combat the invisibility and poor digital accessibility of the science produced in the higher education institutions that are members of the CAMES space, and to preserve it in the long term under optimum conditions.

This archive will also facilitate access for all to documentation and relevant scientific and technical information on Africa, thereby helping to improve the quality of research training in the CAMES area. More specifically, this project will make it possible to:

- Better use of the scientific production of the CAMES area in university teaching, in administrations or in the school system, hence an improvement in general and research training, based on more effective and powerful documentary research,
- Enhancing the value of research activities in Africa thanks to this global reach on the web, at a time when science is an important factor in sustainable development.
- More rapid and effective advancement of the knowledge produced in African universities through better sharing of the results obtained
- Better protection against plagiarism (non-falsifiable date

of first publication)

- Support for the introduction of LMD programmes by facilitating access to high-quality scientific documentation for all master's and doctoral students and their teachers.

DICAMES was created in response to three CAMES missions:

- Promoting and fostering understanding and solidarity between Member States ;
- Establish permanent cultural and scientific cooperation between Member States ;
- Gathering and distributing all university or research documents: theses, statistics, information on examinations, directories, annual reports, prize lists, information on job offers and applications from all sources, etc.



Figure 3: CAMES Institutional Repository Platform

DICAMES enhances the Silhouette program by making it easier to create lists of candidates' publications. Each CAMES member university is invited to join this collective project, which will be carried out in collaboration by signing an agreement.

To help users (librarians/documentalists) with the filing process, a tab entitled Filer's Guide⁵ is available and accessible from the platform.

Benefits of DICAMES for teachers and researchers

- Ensures that scientific output is widely disseminated;
- Promotes exchanges between researchers;
- Increases the visibility of the scientific output of teacher-researchers and students from African countries;
- Improves the findability and accessibility of these scientific productions through indexing by search engines such as Google Scholar;
- Allows these products to be preserved over the long term

Benefits for the dissemination of knowledge in Africa and worldwide

- Allows well-organised and identifiable scientific output to be re-used for teaching, research and innovation purposes;
- Improves the process for producing applications for career advancement for teachers;
- Enhances the reputation and prestige of CAMES member universities;
- Makes scientific documentation accessible free of charge without generating platform management costs for

universities.

IRD documentary platform⁶

Bibliothèques électroniques en partenariat (BEEP) is a hosting site for digital libraries created on the initiative of the Documentation sector of the IRD (Institut de recherche pour le développement). It provides access to several collections of scientific documents produced, for the most part, by institutions in developing countries. It brings together 17 digital collections from universities and research institutions.



Figure 4: IRD's collective digital libraries

Making digital documents available on the Internet can present difficulties due to poor quality connections, unavailability of servers, frequent power cuts, complex implementation of IT projects, etc. The BEEP provides practical solutions for projects experiencing these difficulties: it offers temporary accommodation until permanent solutions can be put in place locally. This cooperative approach reflects the desire of information producers to enhance the value of their publications and make them rapidly accessible to the scientific communities of the Internet world.

BEEP provides value-added services to all its partners. For example, statistical analyses of consultations relating to the content of collections (pdf files) make it possible to draw up precise strategic indicators on the nature and origin of searches. The implementation of effective tools to ensure the best possible indexing by the main search engines and the deployment of OAI gateways ensure high visibility for the content that is hosted.

The BNEUF of the Agence Universitaire de la Francophonie⁷

The BNEUF (Bibliothèque Numérique de l'Espace Universitaire Francophone) is a collaborative space where learners can consult online digital resources according to their needs, as well as exchanging and sharing resources.

The BNEUF offers more than 17 million⁸ scientific and cultural documentary resources as well as an atlas of more than 21,000⁹ experts-academics from member institutions of the AUF network. These resources, most of which are free, are provided by public and private players in the French-speaking world. The BNEUF is equipped with powerful artificial intelligence engines that can be used to build numerous additional services. These include, for example, a system for recommending and alerting users to books for monitoring purposes, or a system for managing and sharing collections of resources, particularly for teachers and researchers.



Figure 5: Home page of the BNEUF platform

Digital use in documentary practices in higher education libraries in Senegal

In our questionnaire, we found that 90% of the professionals responding said that they use digital technology to disseminate/communicate research results. This percentage shows the importance or necessity of having documentary platforms accessible online for research communities.

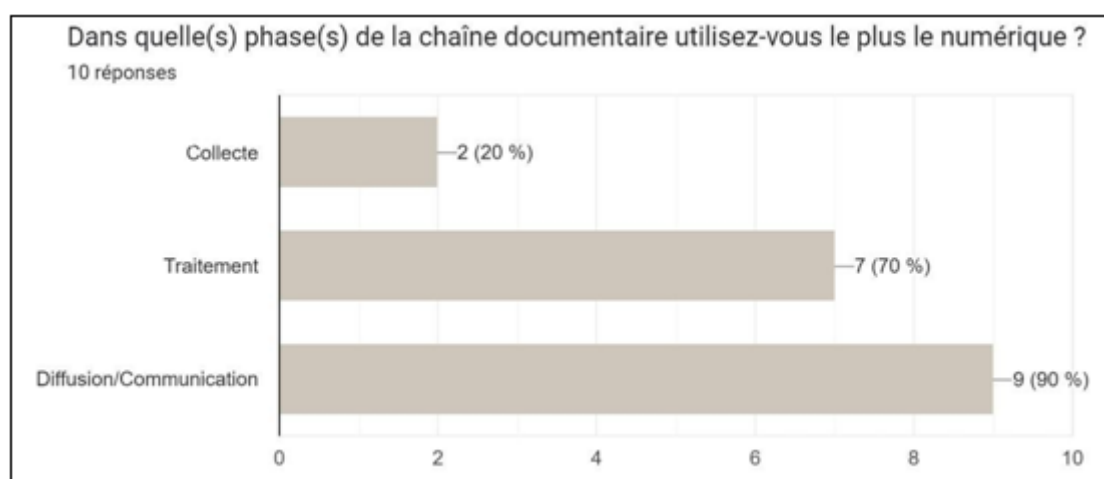


Figure 6: Digital usage in Senegal's higher education libraries

4. Recommendations

- Centralising all free access initiatives to catalogues and documentation in a single portal. Enabling a structure such as the Centre National de Documentation Scientifique et Technique (CNDST) [The National Centre for Scientific and Technical Documentation (CNDST) was created by decree n° 77- 272 of 06 April 1977 with the support of UNESCO and UNDP, following the recommendations of the Conference of Ministers of African States responsible for the application of Science and Technology to Development (CASTAFRICA), held in Dakar in January 1974.] to fully play its coordinating role in implementing national policies for collecting, processing and disseminating (promoting) scientific and technical information with university libraries and research centres or institutions.
- Communicate more with the university and research communities to publicise the union catalogues or
- institutional repositories that have been set up.
- Make a strong plea to all university and research communities for an institutional policy of free access to scientific and technical information in Senegal.

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