

Appropriation and use of Scientific and Technical Information by Postgraduate Learners in the Arts and Humanities at the University of Kinshasa: Results of Surveys Conducted in the Faculty Library from 2017 to 2022

Ngoyi Ngembo Reagan¹

¹University of Kinshasa

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Abstract: The data collected from our surveys carried out among a sample of 29 learners out of 97 enrolled in postgraduate studies at the Faculty of Arts and Humanities of the University of Kinshasa during a period from 2017 to 2022 show that 7 of them, i.e. 24.14% frequent the Faculty Library to access its documentary holdings in order to elaborate their various scientific works; 5 learners, i.e. 17.24% frequent it sometimes to exploit only its reading room while 17 learners, i.e. 58.62% never frequent it. To achieve this, we used bibliological systemics, ethnography, participant observation, documentary, questionnaire and interview as the methodology. As a result, the quality of the services and documentary offer of this documentary institution does not meet the expectations of students of scientific and technical information. Hence the need for such a reflection aimed at proposing new perspectives, a guarantee for an improvement of the documentary system of the University of Kinshasa in general and of the Faculty of Arts and Humanities in particular.

Keywords: *Scientific-Technical Information, Postgraduate-Student-DEA/DES-2017-2022, Faculty-of-Arts-and-Humanities, University-of-Kinshasa.*

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I. INTRODUCTION

Appropriating and exploiting scientific and technical information in order to reproduce others is one of the activities inherent in the lives of post-graduate learners. Their assessment and promotion depend on it. Consequently, access to specialized documentation that is reliable and accessible in real time becomes a fundamental need, if not a necessity, which university libraries, as authentic laboratories of scientific and technical information, are called upon to meet. This even justifies the presence of the Library within the Faculty of Arts and Humanities of the University of Kinshasa. Unfortunately, the rudimentary and incomplete functioning of this institution is beyond doubt as Ngoyi Ngembo (2025, p354) explains. The managerial strategies put in place by the authorities have simply shown their limits, to the detriment of learners eager for scientific and technical information. To flesh out their work, they develop personal practices often fraught with uncertainty and deadlock in the

face of this flow of scientific and technical information produced on a daily basis. Faced with this situation of deficiency, which raises unanswered questions, the absence of a national regulatory framework is indexed as being at the root of the negligence, disorder and interference undermining the scientific and technical information sector in the Higher Education and University sector in the Democratic Republic of Congo in general, and the documentary landscape of the University of Kinshasa and the Faculty of Arts and Humanities in particular. The aim of this study is to assess the level of appropriation and use of scientific and technical information, and to evaluate the difficulties of access to it by DEA/DES students in the Faculty of Arts and Humanities at the University of Kinshasa.

II. METHODOLOGY

To carry out this study, we used the methods and technics employed in Documentary Sciences and Technics.

Firstly, we used bibliological systemics, a method endogenous to bibliography, the sciences of the written word and written communication defined by Estivals (1987, p.8), and general document science and technics. Knowledge about books, information and documentation defined by Otlet (1988, p.93). According to Ludwing von Bertallanhy (2012, p.30), bibliological systemics refers to the phenomenon considered as a system, or can be conceptualized according to a system logic, i.e. considered as a complex set of interactions. The use of this method has enabled us to explain the phenomena and understand the behaviors observed and analyzed as social facts and phenomena among learners in relation to the documentary system of their faculty: the faculty library. To this end, it fits in with the methodological logic of our study, and describes the facts observed and analyzed as units of communication of written information. It also enabled us to elucidate the information needs expressed by post-graduate learners at the Faculty of Arts and Humanities.

Secondly, we used content analysis, because according to Paillé and Mucchielli, analysis is not only concerned with specifically collected content, but also with the social, cultural, political and historical contexts rooted in a discourse that is itself produced at a particular time, in a particular place and by a particular person or group of people. According to Paillé and Mucchielli (2001, p.62) to analyze this discourse, then, is to go beyond technicality or technical operations and manipulations, to apply the resources of intelligence that facilitate the grasp of meanings. We have used this method to achieve this ideal.

Thirdly, we used participant observation, defined by Sylvie Tétreault (2014, pp.317-325), as direct observation (in situ or in vivo) of the actions and interactions of individuals in their everyday environment by a researcher, who becomes the observer. To this end, we proposed to play the dual role of both investigator and respondent. Wearing our investigator's hat, we drew up a questionnaire for the target audience. In responding, we reacted objectively to the survey questionnaire in our capacity as a learner and scientist at the Faculty of Arts and Humanities and as an agent assigned to the library over a three-year period, 2015 to 2018. Our study was conducted among 3 agents assigned to the faculty library and 29 learners still studying out of the total 97 enrolled in postgraduate studies during a 5-year period, 2017 to 2022. To determine our sample size, we used a systematic sampling

approach based on the principles of simple random sampling defined by Hervé Gumuchian and Claude Marois (2020, pp. 265-271). According to these authors, simple random sampling belongs to the large family of probabilistic methods, which consists in selecting subjects, objects or geographical spaces on the basis of random number criteria, based on these endogenous principles, we were able to identify a sample of under-studied learners.

We used documentary technical to exploit documents (physical and digital books, articles, etc.) to flesh out this study, which also involved observing current documentary standards. We also developed a survey questionnaire, a versatile data collection tool traditionally used by researchers of all kinds. To this end, we used Google forms to create a virtual survey questionnaire. We then shared it in the form of links to the e-mails and WhatsApp groups of the Association de Corps Scientifique de la Faculté des Lettres (ACS-Lettres). It should be pointed out that this forum brings together the assistants and supervisors of the Faculty of Arts and Humanities, most of whom are enrolled in the DEA/DES program within their specific departments. Our questionnaire comprises twenty-eight (28) questions divided into two main sections. The first section comprises seven (7) identification questions, and the second section contains twenty-one (21) open and closed questions on the topic of interest. To gather information on the functioning of the Library of the Faculty of Arts and Humanities of the University of Kinshasa, as well as other complementary information, we adopted the interview technique, which made it possible to interview staff assigned to the library.

III. RESULTS AND DISCUSSIONS

➤ *General Situation of Learners Enrolled in DEA from 2017 to 2022*

In a 2021-2022 report drawn up by the office of the Vice-Dean (2024, p.21) in charge of Research at the Faculty of Arts and Humanities at the request of the Secretary General for Research, all cases were listed. It lists learners in training, including those who had not yet completed their courses and seminars, those who were in the process of researching and writing their dissertations, those who had already submitted their dissertations and were awaiting the announcement of their defense, and those who had dropped out altogether.

Table 1 General Situation of Learners Registered for DEA/DES in Faculty of Arts and Humanities's Departments from 2017 to 2022

Evaluation of the 3rd cycle registered rate in 9 departments from 2017-2018 to 2021-2022			
N°	Departements	Staff	Percentage
1	Philosophy	10	10.31%
2	French Literature and Civilizations	4	4.12%
3	English Literature and Civilizations	11	11.34%
4	African Literature and Civilizations	8	8.25%
5	Historical Sciences	14	14.43%
6	Information and Communication Sciences	30	30.93%
7	Documentary Sciences and Technicals	20	20.62%
8	English and Business Computing	0	0.00%
9	Translation and Interpreting	0	0.00%

Total général	97	100%
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Source: Office of the Vice-Dean for Research at FLSH

• *Comments:*

The information in table 1 shows that over five years (5 years), the faculty has registered 97 learners who have not yet completed their studies. The Department of Information and Communication Sciences had the most students, with 30, or 30.93%, followed by the Department of Documentary Sciences and Technical, with 20, or 20.62%, and the Departments of Historical Sciences, English Literature and Civilization and Philosophy, with 14, or 14.43%, 11, or 11.34%, and 10, or 10.31%, respectively. However, the

departments with the fewest students in relation to total enrolments over five (5) years are the Department of African Letters and Civilizations with 8 students, or 8.25%, followed by the Department of French Letters and Civilizations with 4 students, or 4.12%. On the other hand, the Translation and Interpreting Department and the English and Business Computing Department did not register any learners during the period in question. Having presented the numerical summary of the learner situation, it's time to present the sampling of the population.

Table 2 Sampling of 29 Learners per Department

N°	Départements	Effectifs	Total
1	English and Business Computing	0	0.00%
2	African Literature and Civilizations	3	10.34%
3	English Literature and Civilizations	2	6.90%
4	French Literature and Civilizations	1	3.45%
5	Philosophy	3	10.34%
6	Information and Communication Sciences	10	34.48%
7	Documentary Sciences and Technicals	8	27.59%
8	Historical Sciences	2	6.90%
9	Translation and Interpreting	0	0.00%
	Total général	29	100%

Source : Ourselves Based on our Survey Questionnaire

• *Comments:*

The table n°2 above indicates that the department of Information and Communication Sciences enrolled more learners during the period of our study with a headcount, with 10, or 34.48%, followed by the Department of Documentary Sciences and Technicals, with 8, or 27.59%, followed by the Department of Philosophy and the one the Department of African Literature and Civilizations wich each recorded a workforce of 3 units, or 10.34% followed the Departement of Historical Sciences and that of English Literature and Civilizations, with 2, or 6.90% and fanally the Department of French Literature and Civilizations, with 1, or 3.45%.

The trend is such that the "Organizational Communication" option recorded the most responding students, with a total of 7 units, or 24.41%, followed by the "Archival Science" option, with a total of 5 units, or 17.24%, followed by the "Library Science" and "African Linguistics" options, with a total of 3 units each, or 10.34%, followed by the "Political History", "English Linguistics", "Multimedia", and "Philosophy of Science" options, with a total of 2 units each, or 6.90%, and finally the "Journalism, Foreign Policy", "French Literature", and "Philosophy and Society" options, with a total of 1 unit each, or 3.45%.

➤ *Results of the Study and their Implications*

Our surveys show that the number of male students who responded to the questionnaire was higher, with a total of 21, or 72.41%, compared to the number of female students responding, with a total of 8, or 27.59%. This trend is explained by the simple fact that over the past five years, the faculty has enrolled more male than female students.

Furthermore, the data indicates that students enrolled in the DEA/DES program during the period of our study, whose age range varied between 26 and 35 years, recorded a total of 25 units, or 86.21%, and those whose age range varied between 36 and 45 years, recorded a total of 4 units, or 13.79%. However, those aged 18-25 and over recorded no responses, or 0%. However, learners in the "Teacher" category are more numerous with a number of 12, or 41.38% compared to those in the "Researcher" category with a number of 9 units, or 31.03%. Learners who registered under the professional category "others" are represented by a number of 8 units, or 27.59%. This justifies the trend of the scientific orientation taken by the two categories "teacher-category" who aspire to a professorial career. Among its learners, the "Assistants 1" category had more staff compared to others with a staff of 16 units, or 55.17%, the "Assistants 2" category had a staff of 4 units, or 10.34%, the "Librarians" category had a staff of 1 unit, or 3.45% and the "Others" category had a staff of 8 units, or 31.03%. Its learners are grouped according to their years of registration which indicates that the number of responding learners registered at the faculty during the academic year 2021-2022 is higher with a number of 16 units, or 55.17%, followed by those of the academic year 2020-2021 with a number of 12 units, or 41.38% and finally those of the academic year 2019-2020 with a number of 1 unit, or 3.45%.

The results of the survey show that of the 29 learners questioned, 1 (3.7%) defined science et technical information (STI) as a set of specific data and information used for the publication of scientific and technical work, while 28 (96.3%) gave generic definitions of STI. This result demonstrates the orientation of STI given by learners, who, for the most part,

define it in a scientific aspect that reduces its scope as well as its field of action. This can be explained by the lack of information and training for users (learners) on STI and/or by the non-existence of a scientific and technical information policy designed to explain the scope of STI, its resources, sources and use.

The survey results show that out of 29 respondents, 100% explained their motivations for appropriating and exploiting STI. Each gave one or more reasons, justifying a high response rate in relation to the number of learners questioned, i.e. 133 responses grouped into 7 main axes. A researcher has several reasons to justify his or her appropriation and use of STI. Learners have given their own. A learner can simultaneously use STI to meet research needs. This can be explained by the nature of the scientific work they publish, which at all costs requires access to documents of various kinds, i.e. articles, communications, dissertations, practical work, etc.

Our surveys revealed that 29 learners, or 100%, cited their sources of access to STI. To achieve this, each learner simultaneously accesses different sources, of which libraries and physical and electronic documentation centers are the most frequented. This can be explained by the credibility accorded to documentary institutions, especially as they are packed with scientific and technical information professionals who are expected to acquire, process, preserve and communicate scientific and technical information according to actual research needs. They also store information that is verifiable, stable and validated by scientific committees from different backgrounds.

The results of the survey show that out of 29 learners, 7 (24.14%) visit the library of the Faculty of Arts and Humanities often to consult more grey literature; 5 learners (17.24%) visit it sometimes to make use of its reading space, while 17 learners (58.62%) never or rarely visit it. This reflects the quality of service and the nature of the documents held in the library. These documents consist of scientific works (dissertations, theses and other scientific reports) produced by previous learners and doctoral students.

The results of the survey show that out of 29 learners, 28 answered this question, 4 of them (14.28%) judging the time spent in the library for research purposes to be very sufficient or sufficient, while the other 24 (85.71%) judged it to be insufficient. This explains the low level of satisfaction among learners who use the library's holdings, since the scientific works that dominate the holdings do not have the same scientific value as books. Many learners consult elsewhere.

The results of the survey show that 28 out of 29 learners answered this question. Of these, 26 (74.29%) access the STI held in the faculty library via physical catalogs and directories. This can be explained by the nature of the library's holdings, which are dominated by printed matter (paper). A medium renowned for its durability, stability and palpability, preserving validated, stable and verifiable information.

Survey results show that out of 29 learners, 25 (73.53%) simultaneously access the STI by subscription, while 4 others (26.47%) simultaneously access it by free access, exchange and loan. The faculty library requires all users to have a subscription before they can access the documentation they require. With the exception of professors, who are expected to deposit their publications, learners pay a daily and/or annual subscription as researchers in order to access the documents held in the library.

The survey results indicate that 26 out of 29 learners responded to the STI format exploitation question. Among them, 11 learners, or 42.31%, prefer to use the electronic document while 15 learners, or 57.69%, use both formats (electronic and printed). This may explain the current trend towards electronic. Despite the absence of electronic documentation and the resources that facilitate their access within the faculty library, learners make extensive use of both electronic and physical (printed) documents simultaneously, depending on their availability. According to the survey results, 23 learners (27.45%) prefer to access the STI simultaneously from other libraries and documentation centers; 28 learners (6.86%) prefer to access it simultaneously from their offices and 26 learners (25.49%) use their homes to connect to the STI. This can be explained by the democratization of internet access using tools (phones, computers, tablets, etc. connected to the internet) that they themselves own. The three places cited with the highest frequency are those most frequented on a daily basis by the learners surveyed.

The survey results show that 28 learners, or 19.05%, simultaneously access Scientific and Technical Information (STI) via the sites of other universities. Of these, 27 learners (18.37%) simultaneously use Google classic and thematic search engines to access STI, 26 learners (17.69%) use IST through open source (online) libraries, and 21 learners (14.29%) use open source archives to access STI. Faced with dissatisfaction with the documentary offer and quality of service of the LSH faculty library, learners turn to other sources to access STI. These are open source electronic data offering greater ease/freedom of use. The sources cited in this sense are the engines, if not the databases, rich in documentary resources in all fields of research in general, and in the humanities in particular. But they often provide unreliable, untrustworthy information.

The survey results show that, on average, 21.81% of learners simultaneously exploit electronic STI in the form of bibliographic references, articles, theses/dissertations, course notes, books, factual data, research reports, symposia, writing guides, images and videos, and official documents. These documents are the sources of information generally used to produce/edit/document scientific work. They are generally cited in all the learners' scientific productions. Learners are strongly encouraged to make use of them in their research.

The survey results show that 17 learners (58.62%) have access to specialized journals in their fields of specialization, while 12 learners (41.38%) do not. This may explain the level of scientific curiosity that undermines learners' desire to

discover and keep abreast of STI published in their respective fields of specialization. Other learners quickly develop research instincts, with or without the help of others

On average, 17 learners, simultaneously exploiting electronic documents, proceed by saving copies, downloading, printing some or all documents, reading online, taking notes from the screen and doing it all at the same time. Not all documents posted online offer the same access conditions. Some are not downloadable. They have hyperlinks to the authors and webmasters, who set certain accessibility conditions. On the other hand, those that are open source pose no accessibility or usability problems. Learners use them for research purposes.

The results of the survey show that only 15 learners, or 60%, answered this question about publishing articles or their research reports. Of these, 5 learners, or 33.33%, have already published IST in the form of articles and communications, while 10 learners, or 66.66%, have published it in the form of brochures, guides and other types. However, a further 14 learners (40%) did not provide an answer to this question. Caught up in field research and called upon to meet certain academic and professional requirements in their capacity as teachers or employees, learners and professionals, the subjects questioned are increasingly fewer in number to publish STI. Added to this are the problems associated with the oral culture in which they live. Those who manage to disseminate their STI use a few virtual and physical channels: their personal blog, Ziglobitha.org, the Annals of the Faculty of Arts and Humanities, the Raison Ardente publishing house, and the potential. The publishing houses and journals of this STI impose publication standards on them that are sometimes considered too complex and excessive. This justifies the concern for uniformity and the requirement to comply with standards for the dissemination of scientific content, which are imposed on all as part of the dissemination policy. No learner ever asks about the standards used to disseminate their content. And no publishing house takes the trouble to explain this to the author of a manuscript.

The survey results show that 26 learners (89.65%) would like to see the faculty library purchase (renew) new editions of books, review opening hours and staffing and computerize, while 3 learners (10.35%) made no recommendations. This justifies the learners' interest in the STI and demonstrates the learners' level of knowledge of solutions that can guarantee and contribute to improving the documentary offer and the quality of service provided by their faculty library. This proves that learners understand the role of the library within a university and attach vital importance to it.

The results of the survey show that 26 learners (17.45%) would like to see the faculty library simultaneously organize a series of training courses in finding information on the Internet, 25 learners (16.78%) would like to receive assistance in retrieving, formatting and saving digital documents, and a further 25 learners (16, 78% would like the library to provide them with a better knowledge of information sources in their field, and another 25 learners

(16.78%) would like the library to improve their access to more information sources, 24 learners (16.11%) would like the library to facilitate publication in specialist journals, and finally 24 learners (16.11%) would like the library to diversify their information sources. The faculty library, like any other institution of its kind, has a triple mission: to inform, to train and to entertain. Up to now, the faculty library has struggled to fulfil just one mission: to inform. Beyond this mission, learners would like to see the library improve the quality of its services and working conditions, and become a real tool for promoting science through scientific and para-scientific activities, rather than simply sharing information. This attachment to the library can be explained by the fact that there are still learners who rely on it, expect it to provide better conditions, want it to play a greater role and hope to benefit from its comprehensive services.

IV. PROPOSAL FOR A SCIENTIFIC AND TECHNICAL INFORMATION POLICY

In view of technological developments and the research questions posed by current requirements, we propose the creation of a National Agency for Scientific and Technical Information (N.A.S.T.I) to replace the National Office for Scientific and Technical Information (N.O.S.T.I) proposed by the Unesco mission in 1976 as documented by Deweze (1976, p.5).

➤ *Under the Supervision of the Ministry of Scientific Research and Technological Innovation, this Agency will be Responsible for :*

Supporting pilot projects in the Scientific and Technical Information (STI) and Information and Communication Technology (ICT) sector: funding, advice and guidance; Ensuring coordination between information units and sub-systems specialized in the production and dissemination of scientific and technical information; Contributing to STI outreach activities; Contributing to the creation of a national STI network and ensuring its smooth operation; Contributing to the creation and diversification of tools for accessing, sharing and disseminating STI: Open archives, library sites, directories of STI access points; Contribute to the creation and supply of on-line and off-line documentary databases; Contribute to the promotion of services and establishments in the STI sector; Contribute to the publication and improved exploitation of information; Coordinate all activities aimed at facilitating the rapid identification and maximum exploitation of sti; Create means and/or tools for access to information that ensures communication between the Agency and populations of all tendencies: scientific journals and specialized portals; Develop technics for combating document-damaging factors; Develop and ensure the smooth operation of documentary and information services; Develop documentary collections by facilitating 24/7 access for all; Develop documentary research technics applicable to all; Publish bibliographic standards and ensure their applicability; Encourage and develop training in the field of scientific research, production and dissemination of STI; Encourage initiatives in the field of reading, scientific research, production and dissemination of STI: training, awareness-raising, workshops, conferences, forums, etc. Promote the creation of applications to facilitate the

collection, processing, storage and access to data; Publish activity documents relating to the operation and development of STI throughout the country; Ensure compliance with and application of standards in the STI production chain; Ensure the implementation of documentary information watch strategies; Ensure the implementation and enforcement of appropriate legislation and regulations to safeguard STI activities; and Ensure the analytical processing of information produced (compliance with current standards).

➤ *To Support N.A.S.T.I 's Actions, Two Structures will be Created, Namely :*

- To create a body of “**Documentalist Inspectors**” whose mission will be to ensure that decisions taken at national level are properly implemented, to enforce compliance with recommendations and to apply sanctions where necessary.
- Create a “ **National Commission for Scientific and Technical Information**” whose mission will be to ensure that the recommendations made by N.A.S.T.I are applied, and to develop cooperation with other countries in the various bodies and activities surrounding STI : international networks, colloquia, conferences, etc.

V. CONCLUSION

The present study is based on the presentation of data from our survey of DEA/DES students at the Faculty of Arts and Humanities of University of Kinshasa, on their level of appropriation and use of scientific and technical information held in their faculty library, as part of the writing of our post-graduate dissertation. It led to an understanding of the level of appropriation and use of scientific and technical information by the aforementioned learners, and to an assessment of the difficulties they experience in accessing this specialized information within their faculty library. It also led to an understanding of the recourse made by these learners to access the STI stored in other libraries, documentation centers and other physical and digital sources.

As a result, the criticisms of the quality of service and documentary offer presented above have led to the proposal to set up a national policy, taken here as a legal framework to regulate the IST sector in DR Congo and ensure access to it for all players in general and in the Higher Education and University sector in particular. This requires collective, three-dimensional involvement: The *Government*, which should provide the STI sector with a legal framework and legal texts adopted by both houses of parliament, and allocate the necessary funds to guarantee access to quality STI for all. This also requires the deployment of a corps of inspectors to enforce the recommendations. The *Authorities* of the various institutions and establishments of higher education and universities who, in turn, must accompany the reforms by cleaning up the STI sector and implementing the various recommendations aimed at access to all and for all. *Users* must be involved in this process through the organization of care, initiation, training and scientific orientation activities. It goes without saying that the quality of STIs and access to them must be facilitated.

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