Availability and Utilization of Information Retrieval Tools by Students in Polytechnic Libraries in Bauchi State, Nigeria

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ABSTRACT: The study investigated the availability of information retrieval tools and its utilization by students in polytechnic libraries in Bauchistate, Nigeria. The population of the study comprised 368 registered library users from 2 selected polytechnics in Bauchi state during 2018/2019 academic session. Cross-sectional research design was employed using a structured questionnaire to collect data. Data collected was analyzed using mean and standard deviation. The hypotheses was tested using independent sample t-test at 0.05 level of significance. The statistical test observed is 0.336 greater than 0.05 (P>0.05) which reveal that there is no significant difference on the type of information retrieval tools available for information access in Federal Polytechnic Bauchi and AbubakarTatari Ali Polytechnic Bauchi. The study equally reveal thatutilization of information retrieval tools is relatively low in the institutions studied. It was recommended that electronic search tools should be provided to ease access to electronic resources and motivate students to use information retrieval tools independently.
KEYWORDS: retrieval tools, availability, utilization, national diploma (ND) students, bauchi

I.   INTRODUCTION

Libraries are considered as a nucleus of academics in all academic institutions of learning where librarians of these institutions serve a variety of users, such as students, faculty, staff and administrators with diverse information needs (Neeru and Ranjana, 2007). Due to information explosion and the advent of new technologies, information needed by students is now found in different formats in academic libraries, technology centres and computer laboratories. These technologies have brought an alternative to facilitate access to scholarly information for teaching and learning. Consequently, students' information needs for research could be found without difficulties. Their information needs can be satisfied from primary sources like journal articles and research reports or secondary sources such as textbooks and reference books like the dictionary and encyclopedia. Tertiary sources which include the abstracting and indexing journals can also be used by students to collect current information for research. These information sources are no longer only in print, but in electronic forms. They can now be retrieved from different types of sources such as CD–ROMs, Internet, OPACs, electronic books and electronic journals by using appropriate search strategies including Boolean operators [OR, AND, NOT), truncation, proximity features and search engines such as Yahoo, Google, Excite and Alta vista. Also, electronic books, electronic journals and OPACs can be searched online through the Internet

This massive information that abound both electronically and in paper form has made the need for Information Retrieval Tools (IRTs) to retrieve the information apparent. These tools have developed into widely used services and have become essential tools for finding information.Information retrieval (IR) is concerned with the exploitation and extraction of information and other contents of documents from different information sources (Ajiboye, 2013). Hersh(2003) echoed IRas the field concerned with the acquisition, organization, andsearching of knowledge-based information. However, academic libraries use information retrieval systems (tools) to provide access to books, journals and other documents. From the foregoing, Information retrieval tools (IRTs) therefore is the means or applications through which information can be accessed from various sources. Also skills are required to select and retrieve information as it reduces the time to be wasted in search of information. To surmount the problems of retrieving information, students may require a combination of skills which include informational retrieval skills, operational retrieval and strategic retrieval skills to make the process of retrieving information a simple task. Bradford (2013) reported that the skills for retrieving information needed byUniversity students include the skill "to navigate, select, evaluate and re-use information". These skills involve the ability to handle the different retrieval tools that abounds. Despite the expediency of these tools to information retrieval, their effective use in developing countries is being hampered by varying factors. Findings have revealed that these factors include lack of information search and retrieval

skills, low level of user education and information literacy training, and students' subject backgrounds (Fordjour,Badu and Adjei 2010)

Problem Statement

Academic libraries exist to support the teaching, research, information services and other functions of their parent institutions. As part of academic library services, creating information access are often rendered in libraries with the view of assisting library clienteles to easily locate and retrieve appropriate document to consult. Most library patrons lack the information search strategy to locate and retrieve information materials from the library stalk. Academic libraries inbauchi state Polytechnics just like those in the Universities are established primarily to meet the information needs of their user communities through creating information access and use to support teaching, research and dissemination of knowledge.

To achieve this task, there is need to provide and make available information search tools to facilitate ease of access to information sources in the libraries. Preliminary investigation reveals that, Polytechnic Libraries apply various strategies to ease access to information resources, yet information retrieval tools are inadequate in some Polytechnic libraries and those available are underutilized by students, which in turn leads to poor academic performance.Ajiboye (2013) observed insufficient skills by students on the use of information retrieval tools in Nigerian institutions deprive student from making use of information resources for their academic activities. To buttress this assertion, Oyedipe (2013) reported that majority of students acquire skills of utilizinginformation retrieval tools from library instructions and information literacy

Purpose of the Study

The purpose of the study is to ascertain the available information retrieval tools provided by Polytechnic librariesand the extent of use by students inBauchi state. Specifically, the study is design to highlight both the manual and electronic search tools available inBauchi state polytechnic libraries. Information retrieval skills and utilization by the Polytechnic students. Research questions: this questions were raised to guide the study: What type of information retrieval tools are available in polytechnic libraries. What is the extent of information retrieval tools utilization by students in polytechnic libraries in Bauchistate. Research hypotheses: there is no significant difference between the typesof information retrieval tool available in polytechnic libraries in Bauchi state. There is no significant difference between the extents of students' utilization of information retrieval tools for information access in polytechnic libraries inBauchi state.

II. LITERATURE REVIEW

The massive information that abound both electronically and in paper form has made the need for information retrieval tools (IRTs) apparent. These tools have developed into widely used services and have become essential tools for finding information. It also went further to explain that many academic and public libraries use information retrieval systems (tools) to provide access to books, journals and other documents. From the forgoing, information retrieval tools (IRTs) therefore is the means or applications through which information can be accessed from various sources.

Information retrieval tools are crucial for retrieving information for educational outcomes. Also skills are required to selectively retrieve accurate and sufficient information stored in documents instead of all the information that may not be relevant for the students' research. Skill in information retrieval reduces the time wasted in seeking information. To surmount the problem of retrieving information, students may require a combination of skills which include informational retrieval skill, operational retrieval and strategic retrieval skills to make the process of retrieving information a simple task. Nieuwenhuyen (2015) reported that the skills for retrieving information needed by higher education students include the skill "to navigate, select, evaluate and re-use information." These skills involve the ability to handle the different retrieval tools that abounds.

Despite the expediency of these tools to information retrieval, their effective use in developing countries is being hampered by varying factors which include lack of information search and retrieval skills, low level of user education and information training, and students' subject backgrounds (Fordjour, 2010). Information retrieval tools are usually called literature search tools as they are locational and they are very useful for answering research queries. Aina (2004) classify information retrieval tools into library catalogues, indexes, abstracts, and bibliographies. An effective and reliableinformation retrieval system must have provision for:prompt dissemination of information, filtering of information, the right amount of information at the right time, browsing, getting information in an economical way, current literature,interpersonal communication, and personal help.Onwuchekwa (2011) opined that an information retrieval system (tools) serves as a bridge between the world of creators or generation of information and the users of that information. He further identifies two broad categories of information retrieval systems these are:-

•   In-house information retrieval systems which are set up by a particular library or information centre to serve mainly the users within the organization. An example of an in-house database is the library catalogue.

Online public access catalogue (OPAC) provides facilities for library users carry out online catalogue searches, and then check the availability of the item required.

•   Online information retrieval systems are those that have been designed to provide access to remote databases to a variety of users. Such services are available mostly on commercial basis, and these services are handled by vendors

Uses of Information Retrieval Tools in Academic Libraries

In the area of Information Retrieval Tools (IRTs), researchers have identified different aspects of Information Retrieval Tools in terms of their peculiarities, nature of search strategies, query formulation, constant power outage and usage. All these factors contribute to the way in which users use IRTs in libraries. To access information, users have different tools at their disposal.For this reason, different search and information retrieval tools have already been designed and used. Such tools, retrieve, index and classify the information available both in the traditional library and on the web to the benefit of the users (Ajiboye 2013). These tools are updated regularly to keep pace with the speeding growth of the information volume. Information retrieval tools are equipped with facilities with which users should be familiar if they are to make the best use of them. Retrieval tools are essential as basic building blocks for a system that will organize recorded information that is collected by libraries, archives, museums, etc. They are also engaged to find information in physical and electronic form, in databases, digital libraries, and networks. Examples of this are bibliographies, card catalogues, indexes, abstracts, subject gateways, directories, OPAC, CD-ROMS, online databases, internet search engines, etc.

Fordjour (2010) studied the prospects and challenges of information retrieval by the Legon students in University of Ghana. Finding shows that the students were fully aware of information retrieval tools and depending on the Faculty students belong used them.In a similar study, Ojo-Ade andJagboro (2000) study on catalogue use, he revealed that users of the library were well informed and versatile in the use of library catalogue especially, the subject area of their interest. In agreement with the above study, Adedibu (2007) study on Readings in Education, Development and Globalization on catalogue use, he notes that 90.01% use library catalogues.Adedibu further reveals high success rate of user's search skills could also be attributed to the students' knowledge of the use of the library gained from Library Instruction. However, the use of the information retrieval tools to obtain relevant information was a problem in some institutions. The main reasons for such difficulties in retrieving information was attributed to frequent disruption of Internet, inadequate time by students on campus and non-availability of training programs to educate students on how to use information retrieval tools to obtain relevant information. These problems notwithstanding, there have been positive uses of the search tools to retrieve relevant information by students in Nigerian institutions.

Barsan (2013) conducted a study to find out the individuals' attitude towards search engines as a tool for retrieving information where they reported that:"Individual computer experience, quality of search systems, motivation, and perceptions of technology acceptance are all key factors that affect individual feelings to use search engines as an information retrievaltool". Another survey was conducted by Nazim (2008) to examine the information searching behavior of Internet user at Aligarh Muslim University (AMU) the result shows that the academic staff spent more time on the Internet than the students and research scholars and also, Internet search engines were the preferred information searching tool, other methods such as databases, gateways and World Wide Web (WWW) were also used. Online journals and databases were the preferred information sources among them. Another study showed the success of library users in obtaining materials, particularly through electronic retrieval tools to satisfy their information needs in an academic library (Ciliberti, Radford, and Radford, in Ariyapala, andEdzan, 2002).

In a related study, Brophy and Bawden inMartzoukou (2008) also compared an Internet search engine (Google) with academic library retrieval tools in order to assess the relevant value, strengths and weaknesses of the systems and found that good coverage requires the use of both systems as both have unique features. They concluded that both systems had advantages and disadvantages but Google managed to retrieve a high proportion of relevantdocuments, adequate or good quality results and unique documents and there were no problems with accessibility. Chang and Perng in Malik and Mahmood (2009) investigated the information requirements and search habits of graduate students at Tatung University, results shows an extensive use of the Internet by the students and mostly about Web-based databases, electronic journals, and search engines. In sharp contrast to the foregoing is the finding of Liyana, Noorhidawati, and Hafiz (2010) on the use of information retrieval tools by postgraduate students of the computer science department of the University of Malaya, where they reported that the students were having difficulties in finding information that is suitable to their learning style using available information retrieval tools.

III. METHODOLOGY

Quantitative research method was adopted for the study using cross-sectional survey research design. This is because of its flexibility which permits the use of variety of data collection techniques such as questionnaire, interview and observation. It was also chosen because it deals with various aspects of human behavior and responses. The targeted population for the study comprised 3,686 registeredNational Diploma (ND) library users fromtwo Polytechnics selected for the study in 2018/2019 academic session.Neuman (2006) stated that for equal accuracy a researcher can select 10% of population above 1000 and 30% of population below 1000. Based on this sample specification, 10% sample size was used in both polytechnic libraries because the total population of registered users are more than one thousand. Simple random sampling techniques were used to select 10% of registered users from the 2 polytechnics relative to their population, totaling 386. The selection was 192 from 1924 user from Federal Polytechnic Bauchi (FPBB), 176 from 1762 from AbubakarTatari Ali Polytechnic Bauchi (ATAPB).While five (**5**) librarians were considered from each library. A total of **10** librarians constitutes the target of this category.

The instrument used was a 4 point Likert-type scale Users evaluation questionnaire divided into sections A and B. Section A sought demographic information while section B assessed the data relating to the issue under study. The instrument was validated using Cronbach Alpha reliability test. SPSS Version 23.0 was used to test the reliability index of the research instrument. This yielded a coefficient value of 0.76 which signifies that the instrument is reliable to elicit the data required for the research. The data collected was analyzed using descriptive and inferential statistical methods. The null hypotheses was tested using independent sample t-test at 0.05 level of significance.

IV. PRESENTATION OF DATA, RESULTS AND DISCUSSION

Table 1 Type of retrieval tools available for Clienteles in Polytechnic libraries in Bauchi State, Nigeria

S/N	Type of Retrieval Tools	Name of Library	
		ATAPB	**FPBB**
1	**Catalog Cards**		
	Title catalog	√	√
	Author catalog	√	√
	Subject catalog	√	√
	Classified catalog	X	X
	OPACs	X	√
	Search engines	√	√
2	**Abstracts**		
	Periodical abstract	√	√
3	**Indexes**		
	Periodical index	√	√
	Subject index	X	√

Key: √ (Available)   **X** (Not available)   **Source:** Field Survey, 2019

The table 1 showed the information retrieval toolsavailable for students use in the polytechnic libraries inBauchi state, Nigeria. Availability of these tools within the library complex varies on the individual library's capacity to provide such tools, which is determined by size, infrastructure, number of staff and qualification. The table reveals that federal Polytechnic Bauchi has the capacity to provide highest number of the retrieval tools such as catalog cards, abstracts, indexes, online public access catalog OPAC and search engines.

Moreover, the table reveals that only Federal PolytechnicBauchi has online public access catalog (OPAC) in their library complex and non among the two polytechnic libraries possesses classified catalog. This portrays that Polytechnic Libraries in Bauchi State, Nigeria does not incorporate the use of classified catalogs which can be used by library professionals. The implication is that documents could not be located professionally using classification numbers.

Table 2 showing the Extent of Information Retrieval Tools Utilization bystudents in Polytechnic libraries in Bauchi State, Nigeria

Retrieval Tool	ATAPB		FPBB	
	Mean	*Std Deviation*	*Mean*	*Std Deviation*
Catalog Card	4.33	.592	4.11	.634
Abstract	2.78	.803	2.92	.743
Index	3.11	.675	3.23	.681

OPAC	-	**-**	3.42	.658
Search Engine	3.54	.711	3.81	.672

Source: Field Survey, 2019

Table 2 showed the extent of students' utilization of information retrieval tools in Polytechnic Libraries in Bauchi state, Nigeria. From the analysis, in ATAPBlibrary, the mean score of 4.33(SD=.592) respondents attest that they highly utilized catalog cards.This is as a result of its simplicity to identify and locate where a document is kept in the library, 3.54(SD=.711) indicated that they rarely utilized internet search engine, while, in FPBB, 4.11(SD=.634) indicated that they utilize catalog card with high extent, 3.81(SD=.672) indicated that they utilized internet search engineand 3.42(SD=658) utilized OPAC with low extent. Based on these responses, it could be deduced that the extent of students' utilization of information retrieval tools in both polytechnics is low.

The findings in this study are inagreement with the work ofAjiboye (2013) on the study he conducted to ascertain the use of information retrieval tools by post-graduate students of selected universities in South-western Nigeria. The findings shows that catalog cards and internet search engines records the highest percentage of respondents.Also, the findings is in accordance with the work ofMsagati (2016) on Awareness and Use of OPAC by Distance Learners in Open University of Tanzania, the finding of the study revealed that there was a low use with (22.61%). It is also in agreement with the work of Liviticus, Mohammed and Abdulkadir (2018) on awareness and utilization of OPAC for information access by undergraduate students in university libraries in Gombe state, Nigeria, the findings reveals that the use of OPAC by undergraduate library users in University libraries in Gombe state is low. It is worthy of note to understand other factors play a significant role in this, that includes availability and accessibility of these tools. Other tools for information retrieval are as well utilized by students, never-the-less, catalog cards stands out as the most frequent retrieval tool used by students while OPAC and abstract toped the least of not frequently used retrieval tools by students.

Hypothesis one
There is no significant indifference in the type of information retrieval tools available for information access between thepolytechnic libraries in Bauchi state.

Table 3: Two-tailed Test on the Information Retrieval Tools available in Bauchi State Polytechnic libraries.

	N	Mean	SD	SE	t-cal	t-cri	P	Df	Decision
FPBB	192	28.2083	13.47475	0.97246	-0.964	1.978	0.336	366	Not
ATAPB	176	29.5568	13.33812	1.00540					Significant

Significant at 0.05 level

Table 3 showed that the t-calculated value of -0.964 is less than the t-tabulated value of 1.978. This showed that the statistical test is not significant as the observed significant level is 0.336 which is greater than 0.05 (P>0.05). The null hypothesis which stated that there is no significant difference on the type of information retrieval tools available for information access in FPBB and ATAPB libraries is therefore retained. This means that there is no significant difference on the type of information retrieval tools available between FPBB and ATAPB libraries for information access.The analysis showed that Polytechnic libraries in Bauchi statehas different types of retrieval tools for their students' use such as catalog cards, abstracts, indexes, internet search engines and OPACs. This can be attributed to the nature of academic programs in the institutions and users ability to utilize these tools among others.

Hypothesis Two
There is no significant difference on the Extent of Information Retrieval Tools utilization betweenND students in Bauchi State polytechnics.

Table 4: Two-tailed Test on the Extent of Information Retrieval Tools Utilization betweenND Students in ATAPB and FPBB Library

Groups	N	Mean	SD	SE	t-cal	t-cri	P	Df	Decision
FPBB	192	12.5781	6.79036	0.49005	-2.555	1.978	0.011	366	
ATAPB	176	14.3409	6.41050	0.48321					Significant

Significant at 0.05 level

Table 4 showed that the t-calculated value of -2.555 is greater than the t-tabulated value of 1.978. This indicated that the statistical test is significant as the observed significant level is 0.011 which is less than0.05

(P<0.05). The null hypothesis which stated that there is no significant difference in the extent of Information Retrieval Tools utilization between ND students in FPBB and ATAPB is therefore rejected. This means that there is significant difference in the extent of Information Retrieval Tools utilization between ND students in FPBB and ATAPB Libraries.

V. CONCLUSION

The use of information Retrieval Tools by National Diploma (ND) students has increased the extent of information search and retrieval at ease in libraries, particularly in the aspect of locating books and other information resources. As revealed in the findings of this study, Polytechnic libraries in Bauchi statehas different types of information retrieval tools for their students' use such as catalog cards, abstracts, indexes, internet search engines and OPACs. This is because success in assessing library resources depends more on the availability of search tools provided to guide users to library content. This is in accordance with the first null hypothesis tested which showed thatthere is no significant difference on the type of information retrieval tools available between FPBB and ATAPB libraries for information access. Secondly, the extent of Information Retrieval Tools Utilization by ND library users in Polytechnic libraries in Bauchi State is low. Based on the second hypothesis tested, a mean difference of approximately two points exists between the ND library users in FPBB and ATAPB libraries in their extent of Information Retrieval Tools Utilization. Libraries can achieve better utilization of their resources if their intended users are adequately informed on the available search tools and know how to use them to locate library resources.

VI. RECOMMENDATIONS

Based on the findings and subsequent conclusion the following recommendations are proffered:-
1. In order to ease access and retrieval of printed and electronic information resources among National Diploma students in bauchi state Polytechnic libraries,the librariesshould maintain the provision of manual search tools and improve on the electronic search tools and make them available to the clienteles.
2. To enhance the utilization of information retrieval tools by ATAPB and FPBB Libraries, National Diploma students should be informed of the benefit of information retrieval tools, motivate them to use retrieval tools independently and by assistance from the library staff. A special time should be set aside to train the ND students on all the technicalities and information search strategies.

REFERENCES

[1].   Adedibu, L. O. (2007). Catalogue Use by Science Students in the University of Ilorin. Gateway Library Journal 10(1) 43-50.
[2].   Adedibu, L. O. (2008). Catalogue Use by Students in the University of Ilorin, Ilorin Nigeria. Libri., 58, 58-62.
[3].   Aina, L. O. (2004). Library and Information Science Text for Africa. Ibadan: Third World   Information Services.
[4].   Ajiboye, B. A., Oyedipe, W. J. &Alawiye, M. K. (2013). Use of Information Retrieval Tools by the Postgraduate Students of Selected Universities in South Western Nigeria, Information and Knowledge Management. 3(5): 53-59.
[5].   Ariyapala, P. G. andEdzan, N.N. (2002). Foreign Postgraduate Student and the Online Catalogue   at the University of Malaysia. Malaysian Journal of Library & Information Science,   Vol.7   (1):57-67 Available at: http://ejum.fsktm.um.edu.my/article/183.pdf. Accessed on November 13, 2011.
[6].   Barsan, I. M (2013). An Investigation of User Attitudes toward Search Engines as an   Information Retrieval   Tool   Computers   in   Human   Behavior   19(6),   751-765.   Available   at: http://www.sciencedirect.com/science/article/pii
[7].   Bradford, J. (2013). Information Services Program of information literacy at Stetson university http://www.sacscoc.orgala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm
[8].   Fordjour, R. Badu, E. and Adjei, E. (2010). The Prospects and Challenges of Information Retrieval by University Students: A case study of Post Graduate Students of the University of Ghana, Legon. Paper provided by African Association of Agricultural Economists (AAAE) & Agricultural Economics Association of South Africa (AEASA) in its series 2010 AAAE Third Conference/AEASA 48th Conference, September 19-23, 2010, Cape Town, South Africa with number 96831. Available at: http://ideas.repec.org/p/ags/aaae10/96831.htm
[9].   Hersh W. R. (2003). Information Retrieval, a Health and Biomedical Perspective (2nd ed.). New   York: Springer-Verlag.
[10].   Liviticus, A. Mohammed, M. F. &Abdulkadir, A. (2018). Awareness and Utilization of Online Public Access Catalogue (OPAC) for Information Access by Undergraduate Students in   University Libraries in Gombe State, Ngeria. Samaru Journal of Information Studies, 18(1)

[11].   Liyana, M.   Noorhidawati, A. and Hafiz, I. (2010).   The Use of Information Retrieval Tools: A Study of Computer Science Postgraduate Students. Science and Social Research (CSSR),   2010   International   Conference   on   5-7   Dec.   2010.   379–384.Available   at: shttp://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5773804

[12].   Malik, A. and Mahmood, K. (2009). Web Search Behavior of University Students: A Case Study at University of the Punjab.   Chinese Librarianship: an International Electronic Journal,28.   URL: http://www.iclc.us/cliej/cl28MM.htm

[13].   Martzoukou, K (2008).   Students' Attitudes towards Web Search Engines – Increasing Appreciation of Sophisticated Search Strategies. Libri, 58, 182–201

[14].   Msagati, N. (2016). "Awareness and Use of OPAC by Distance Learners: the Case of the Open University of Tanzania". Library Philosophyand Practice (e-journal).

[15].   Nazim, M. (2008). Information searching behavior in the Internet age: A users' study of Aligarh Muslim University.TheInternationalInformation&LibraryReview 40(1), 73-81.   Available at:http://www.sciencedirect.com/science/article/pii/S1057231707000562

[16].   Neeru, B. &Ranjana, V. (2007). Trends in Reference and Information Services in the Electric Era: A case study of A. C. Joshi Library, Panjab University, Chandigarh.

[17].   Neuman, W. L. (2006) Social Research Method: Qualitative and Quantitative Approaches. 6[th]ed. Boston Pearson.

[18].   Nieuwenhuysen, P. (2015). Formal and Substantial Internet Information Skills; the Role of Socio-demographic Differences on the Possession of Different Components of Digital Literacy.   Retrieved march, 2015, from http://www.firstmonday.org/issues/issue129/gui/indexhtml: 1-16.

[19].   Oja-Ade, C.O. and Jagboro,K. O. (2000). Subject Catalogue Use at Hezekiah Oluwansanmi Library,ObafemiAwolowo University, Ile-Ife. African Journal of Library Archival and Information

[20].   Oyedipe (2013). Use of information retrieval tools by the postgraduate students of selected   Universities in South Western Nigeria, Information and Knowledge Management. 3(5): 53-59.

[21].   Onwuchekwa, E. O. (2011) Information Retrieval Methods in Libraries and Information Centres, an International Multidisciplinary Journal, 5(6) 108-120