

# APPLICATION OF INFORMATION SKILLS FOR RETRIEVAL OF INFORMATION BY POSTGRADUATE STUDENTS OF FEDERAL UNIVERSITY LIBRARIES IN NORTH WESTERN STATES OF NIGERIA

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## **Abstract**

*The purpose of the study was to identify the extent of application of information skills for retrieval of information by Library and Information Science (LIS) postgraduate students of Federal university libraries in North Western States of Nigeria. In order to achieve the objectives of the study, two research questions were raised. The research questions sought to find out information skills application and extent of application for information retrieval by LIS postgraduate students of Federal university libraries in North Western States of Nigeria. Quantitative research methodology was adopted for the study using descriptive research design. The targeted population was LIS postgraduate students in Federal university libraries in North Western States of Nigeria with a total of one hundred and sixty six (166) postgraduate students admitted in two conservative sessions 2017/2018 to 2018/2019. The entire population was used for the study. Total enumeration sampling technique was used to examine the entire population. The instrument was validated using face and content validity test where as reliability of the instrument was attained by conducting pilot study at University of Maikuguri, Borno State and reliability index of 0.95 was obtained using Cronbach's Alpha. The instrument for data collection was open and closed ended questionnaires. The data collected from the field was analysed via Descriptive statistic while inferential statistic using independent sample t-test was used to test the null hypothesis at 0.05 level of significant via Statistical Package for Social Science (SPSS). The findings of the study revealed that LIS postgraduate students in North-Western States of Nigeria applied skills for using class mark and catalogue, index and abstract, Internet search engines, OPAC, bibliographic skill, information literacy skill and ICT skill in relation to information retrieval. The study also found that LIS postgraduate students in North-Western States of Nigeria were highly applied information skills in all outlined for information retrieval in university libraries studied. The study concluded that information skills application by LIS postgraduate students have increased the extent of information retrieval and access in university libraries, except in the area of institutional repository, databases, OPAC and other skills. It was recommended among others that the university libraries should conduct user education programme at the beginning of each academic session via seminar, direct reference service, the use of university website, library notice board, public information system, handbills in respect to search strategic skills, skill for using databases and skill for using institutional repositories, e-resources and other skills that assist in accessing and retrieving information resources in university libraries.*

## **Introduction**

University libraries and online information have become veritable sources for retrieving information resources needed by postgraduate students for their successful study and research. Library and Information Science postgraduate students need to apply their information skills when it comes to searching, retrieving and accessing information resources in the library either via the library wall or remote access and World Wide Web. Omeluzor, Bamidele, Onuoha, and Alarape (2013) stated that the radical change in provision of information in through the use of Information and Communication Technology (ICT) in this age requires a lot of information skills, knowledge and strategies to ensure maximum utilization of information.

The term information skills have been called differently and synonymously by scholars, authors and researchers with concepts such as information literacy skills, IT skills, library and information skills, computers literacy, information competency, information fluency, information power, digital literacy, ICT literacy, media literacy, information empowerment and academic research skills (Israel, 2018; Bruce, 1997; Gui, 2007; Kuhlthau, 2012; Shirley, 1992; Bawden 2001). Information skills are those abilities which enable a person to handle information effectively. They include the following: recognizing when a problem could be solved with relevant information and being motivated to solve it; identifying what information is needed for a solution; moulding a strategy to find the information and knowing where to find it; carrying through the search strategy to locate the information; selecting the required information; analyzing, interpreting and synthesizing it; organizing the synthesized information; utilizing it in order to solve the problem; assessing the effectiveness of the strategy in solving the problem; storing the synthesized information for future use; and communicating the solution of the problem to others if necessary (Shirley, 1992).

Similarly, Information skill is a set of skills needed to find, retrieve, analyze, and use information. In an information-oriented environment, a person needs to be able to recognize the need for information, be aware of the resources available, know how to find the information, evaluate the results, work with or exploit the results, use, communicate or share the information responsibly and ethically (Shyh-Mee, and Singh, 2008). Information skills, in the view of Omarsaib (2015) in the 21<sup>st</sup> century largely depend upon being able to access information using technology and being able to manipulate technology to access and use information responsibly. This implies that information skills constitute the ability to find, retrieve, analyze and the use of information. But for the purpose of clarity and consistency, this study used information skills to represent all skills that enable information users to retrieve and exploit wide range of information sources, resources and services provided via library wall or remote access and Internet. Such skills include skills for using indexes, abstracts, catalogue or OPAC, bibliographies, databases, institutional repositories, Internet Search Engines, directories and ICT skills for information retrieval.

Furthermore, Information skill has become an important element in education today. With increasing amounts of information, brought about in part by developments in technology for producing, organizing, storing, retrieving and accessing information, and the increasing importance of information in personal and professional life, there is a need to know when and why information is needed, where to find it, and how to evaluate, use and communicate it in an ethical manner (CILIP 2004). This can be deduces that information skills are vital to the success of information retrieval by LIS postgraduate students in university libraries.

On the other hand, information retrieval is concerned with retrieving documents that are likely to be relevant to a user's information need as expressed by his request (Fordjour, Badu and Adjei, 2010). A request is an imperfect expression of a user's information need which must have been defined (Omiunu, 2014) and only a user will be able to tell whether a document retrieved contains the information such user is seeking (Fordjour et al., 2010). This implies that documents retrieved may not be relevant to a request, and two users with identical request submitted can be satisfied in different ways. One document may be relevant to one user and not to the other. Hence, an information retrieval skill is defined as the ability to find information in such a way that non-relevant data (noise) are excluded while relevant information is found (Wien, 2000). Information retrieval skills are very crucial in this information age where many individuals, especially students rely on electronic sources to retrieve information to satisfy their research needs. However, students' efforts to successfully retrieve information relevant to their needs may be limited due to lack of skills.

In the academic setting particularly university libraries, the relevance of information skills for retrieval of information in research is still abstract to many students (Thompson Blankinship, 2015). including the lifelong learning implications. Information literacy has drawn attention from librarians, researchers, conference organizers and educational institutions because of the successful impact it has on the effective retrieval and use of information (Al-Aufi and Al-Azri, 2013). Poor information literacy skills are at the root of students' search difficulties and poor performance in school (Ilogho and Nkiko, 2014). Some students do not know when information is needed, how to recognize good sources of information, how to locate relevant information, use and communicate it effectively (Ilogho and Nkiko, 2014). It is against this backdrop, that the researcher is motivated to conduct this research.

### **Statement of the Problem**

Success in information retrieval in university libraries requires information skills that would enable information users to exploit the wide range of information resources available and retrieve the information effectively. Such skills include skills for using indexes, abstracts, catalogue or OPAC, bibliographies, databases, institutional repositories, Internet Search Engines and directories for information retrieval information. Information skills are crucial for retrieving information for educational outcomes. Despite the numerous advantages of information skills for retrieval of information in university libraries, the researcher while interacting with Library and Information Science ( LIS) postgraduate students in Ahmadu Bello University, Zaria and Bayero University, Kano observed that most of the LIS postgraduate students are yet to make effective use of their information skills (skills for using indexes, abstracts, catalogue or OPAC, bibliographies, databases, institutional repositories, Internet Search Engines and directories) for information retrieval in their university libraries but they are deeply dependent on Internet Search Engines like; Google Wikipedia and so on for their information need. This over-dependence on Internet Search Engines for retrieval and access to information may leads to poor performances in their course work and paper presentation, insufficient coverage in the literature of the subject area for their research and duplication of research effort. In support of this observation, Afebende and Nna-Etuk (2019) in their study revealed that knowledge of library and information skills for retrieval of information is relatively low in the institutions studied. It is in line with the above observation and support from the literature, the researcher wants to find out the extent of application of information skills for retrieval of information by LIS postgraduate students in Federal university libraries in North Western States of Nigeria.

## Research Questions

The study seeks to answer the following questions:

1. What type of information skills are applied for retrieval of information by postgraduate students of Federal university libraries in North Western States of Nigeria?
2. To what extent do the postgraduate students apply information skills for retrieval of information in Federal university libraries in North Western States of Nigeria?

## Research Hypotheses

The research was tested one null hypothesis:

**H<sub>01</sub>:** There is no significant difference in the extent of application of information skills for retrieval of information by postgraduate students of Federal university libraries in North Western States of Nigeria.

## Literature Review

Andunson & Nordlie (2003) also highlighted three main categories of information skills: they describe technical capabilities or what one might call computer literacy skill; intellectual capabilities related to traditional literacy such as bibliographic skill, skill for using catalogue, index and abstract, and communicative competency that presupposes technical as well as intellectual capabilities, and at the same time transcends them. Warschauer (2014) recognized types of information literacy skills as part of the electronic literacy spectrum, which includes computer literacy skills, ability to operate a computer and information and communication skills. Bruce (1997) has defined several concepts influencing and coexisting with information skills: computer literacy, IT literacy, library skills, information literacy skill, and bibliographic skills.

On the other hand, Echem and Udo-Anyanwu (2018) indicated that information skills application facilitate retrieval of information with the aids catalogues, bibliographies, indexes and abstracts, OPAC, and Internet search engines, ICT devices, institutional repository etc. The level of relationship that exists between information retrieval tools provided in the library and students' use of the library is said to be very strong and positive. Also there is a significant relationship between information retrieval tools provided in the library and students' use of the library retrieval tools are crucial for retrieving information for educational outcomes. Another research by Onyenania and Oni (2001) revealed that students used ISEs mainly for the purpose of retrieving information resources to meet their academic information needs. Students' information needs were driven by class assignment, quest for information and information apathy. Most of the students do not have access to online journals, databases and online public access catalog and majority of them do not have the skills required to cite information sources properly (Aliyu, 2018). A study was undertaken by Nkoyo and Nsanta, (2016) Availability and Utilization of Electronic Resources by Postgraduate Students in University of Calabar, the outcome showed that electronic resources were available in the Library but online databases and institutional repositories were not utilized as expected despite the availability according to the study. This could be attributed as a result of poor information skills among the LIS postgraduate students.

In a study by Dike and Edem (2015) revealed that low awareness and application of skills for using catalogue as a retrieval tool was a factor in the under-utilization of the library resources. Afebende and Nna-Etuk (2019) their study investigated the influence of information retrieval tools on the utilization of library resources by undergraduate students in Federal university libraries in South-South Zone, Nigeria. The study equally revealed that knowledge of

library skills for information retrieval tools is relatively low in the institutions studied. It was recommended that more attention should be paid to the teaching of the application of library skills for information retrieval tools in all library user education studies of the instructions.

In Nigeria, studies by Baro and Fyneman (2009); Abubakar and Isyaku (2012); Adetimirin (2012); Ukpebor and Emojorho (2012); Krubu (2015) reveal that the information literacy skill levels of Nigerian undergraduates were inadequate, even though some students have acquired a certain level of information literacy, including technological skills. Oghenekaro (2018), carried out a survey research investigated the effects of information literacy skills on the use of electronic resources by final year students of Redeemer's university. The findings showed that the respondents' information literacy skills level was high and they used e-resources extensively for academic purposes. The findings also revealed that the students encountered network problems while using the e-resources. Conclusion was drawn and recommendations were given. Madu, Vandi, and Chagw (2018) opined that low level of computer application skills for information retrieval in the virtual library would lead to inadequate utilization of information resources. In a study by Adeyemi (2018) revealed that most of the students were aware of the information sources which were available in the library. The students mostly relied on the Internet Search Engines, textbooks, periodical/ journals, professionals and colleagues for information. They rarely used electronic resources such as AGORA, TEEAL and HINARI. This could be due to a lack of awareness and skills necessary to search databases.

*Moreover, Aliyu (2018) examined information literacy among the regular undergraduate students of Modibbo Adama University of Technology Yola. The major findings of the study among others show that majority of students information needs were driven by class assignment, quest for information and information apathy. Most of the students do not have access to online journals, databases and online public access catalog and majority of them do not have the skills required to retrieve information resources properly. However, majority of the students have the capacity to evaluate information before putting it to use. another study was undertaken by Nkoyo and Nsanta, (2016), Availability and Utilization of Electronic Resources by Postgraduate Students in University of Calabar, the outcome showed that electronic resources were available in the Library and Postgraduate students utilized them. But online databases and institutional repositories were not utilized as expected despite the availability according to the study. This could be attributed as a result of poor information skills among the LIS postgraduate students.*

Dike and Edem (2015) in their study revealed low awareness and application of skills for using catalogue use as a retrieval tool was a factor in the under-utilization of its library resources. Amongst the recommendations for enhanced use of the library catalogue were: practical application on the use of library catalogue to be emphasized and made compulsory for all library users and strengthening the use of library course so that it could be taught throughout the undergraduate programme as well as in the first year of the postgraduate study.

Oghenekaro (2018) carried out a survey research investigated the effects of information literacy skills on the use of electronic resources by final year students of Redeemer's university. The findings showed that the respondents' information literacy skills level was high and they used e-resources extensively for academic purposes. In a contrary vein, a study conducted in Thailand by Kunakornsakul and Pinit (2012) investigated the IL skills of undergraduate in Science and Technology and also identified the needed IL skills for improvement in the field of Science and Technology at King Mongkut's University of Technology, Thonburi in Thailand. Findings revealed that the IL literacy level of the students was low.

The gap in the literatures reviewed shows that there is no any study which has been conducted on application of information skills for retrieval of information. Most of the studies talk on specific type of library and information skill for information retrieval hence, it is necessary to fill the existing gap. Furthermore, this study is unique because it specifically focused on information skills for retrieval of information in university libraries by LIS postgraduate students, while other studies reviewed looked at information literacy skill and uses of electronic information resources by undergraduate students and also information retrieval skills for the use of electronic resources. The study was also unique because it deals with two federal university libraries that are offering postgraduate programme in LIS profession in the North Western States of Nigeria. This study therefore intended to focus specifically on information skill for information retrieval by LIS postgraduate students in Federal University libraries in North Western States of Nigeria.

### Methodology

Quantitative research methodology was adopted for the study using descriptive survey research design. The target population is postgraduate students in Federal Universities in North Western States, Nigeria with a total number of one hundred and sixty six (166) LIS Postgraduate Students admitted from two conservative 2016/2017 to 2018/2019 academic sessions. Table 1 presents the breakdown of the population.

**Table 1: Distribution of the Population**

Institutions	Academic Years	Specializations	No. of Postgraduate Students
Ahmadu Bello University, Zaria	2017/2018	Masters of Library Science	32
		Masters in Information Science	5
		Masters in Archives Record Management	5
Ahmadu Bello University, Zaria	2018/2019	Masters of Library Science	36
		Masters in Information Science	6
		Masters in Archives Record Management	6
Bayero University, Kano	2017/2018	Masters of Library and Information Science	34
		Masters in Record Management	2
Bayero University, Kano	2018/2019	Masters of Library and Information Science	35
		Masters in Record Management	5
<b>Total</b>			<b>166</b>

**Source:** ABU and BUK PG Coordinator's Secretary Admission List Record 2016/2017 – 2018/2019 Academic Sessions

The entire population was used for the study. Total enumeration sampling technique was used to examine the entire population because it was suitable for this study and the entire population is sufficiently small and manageable by the researcher. In a parallel vein, Stat Trek (2016) stated that sometimes, if the entire population is sufficiently small then the researcher can include the entire population in the study. The instrument for data collection was open and closed

ended questionnaire. Face and content validity were used to validate the instrument. Pilot study was conducted at University of Maiduguri, Borno State and reliability index of 0.95 was obtained using Cronbach's Alpha. The data collected from the field was analysed via Descriptive statistic while inferential statistic using independent sample t-test was used to test the three null hypotheses at 0.05 level of significant via Statistical Package for Social Science (SPSS).

## Findings and Discussion

### Response Rate

A total number of one hundred and sixty six (166) copies of questionnaire were distributed to the Library and information science postgraduate students (Masters Students) admitted from 2017/2018 to 2018/2019 session in the Library Schools of Ahmadu Bello University Zaria and Bayero University, Kano. One hundred and eighteen copies (118) representing 70.8% were duly completed, retrieved and found useful for analysis. Table 2 presented the distribution of the response rate.

**Table 2: Response Rate**

S/N	Year of Admission	LIS Postgraduate students Studied					
		Postgraduate Students' ABU			Postgraduate Students' BUK		
		QA	QR	%	QA	QR	%
1.	2017/2018	42	29	69.04	36	23	63.9
	2018/2019	48	37	77.08	40	29	72.5
2.	<b>Total</b>	<b>90</b>	<b>66</b>	<b>73.3</b>	<b>76</b>	<b>52</b>	<b>68.4</b>

KEY: i. (QA) Questionnaire Administered, (QR) Questionnaire Retrieved  
 ii. (ABU) Ahmadu Bello University, (BUK) Bayero University Kano

The table 2 showed that Ahmadu Bello University, Zaria recorded 90 out of 66 students representing 73.3 % that responded. In Bayero University, Kano, 76 copies of questionnaire distributed, 52 were returned representing (68.4%). This implied that 166 copies of questionnaire were administered to both LIS postgraduate students of Ahmadu Bello University, Zaria and Bayero University, Kano whereas, the accumulative total returned were 118 copies of questionnaires and response rate 70.8%. The good response rate was attributed to the researcher's familiarity with LIS postgraduate students of Ahmadu Bello University, Zaria, the period that the researcher spent in meeting the respondents to complete the questionnaire and the caliber of research assistants that helped in the exercise. The overall response rate is adequate enough for the study.

### Application of Information skills for retrieval of information

The first research question was raised to find out the types of information skills applied for information retrieval. In order to answer this research question, types of information skills for retrieval of information were provided for the respondents to tick as many skills as applied. Table 4 presented the data collected and analysed.

**Table 3: Application of Information skills for retrieval of information**

S/N	Statements	ABU				BUK				F	%
		AP	%	NAP	%	AP	%	NAP	%		
1	Ability for using catalogue for information retrieval	42	63.6	24	36.4	44	84.6	8	15.4	118	100
2	Ability for using indexes and abstracts for information retrieval	38	57.6	28	42.4	46	88.5	6	11.5	118	100
3	Ability for using reference and information services for information retrieval	36	54.5	30	45.5	42	80.8	10	19.2	118	100
4	Ability for bibliographies for information retrieval	30	45.5	36	54.5	37	71.2	15	28.8	118	100
5	Ability to apply search strategic skills for information retrieval	40	60.6	26	39.4	32	61.5	20	38.5	118	100
6	Ability for using databases for information retrieval	38	57.6	28	42.4	28	53.8	24	46.2	118	100
7	Ability for using institutional repositories for information retrieval	30	45.5	36	54.5	27	51.9	25	48.1	118	100
8	Ability for using OPAC for information retrieval	30	45.5	36	54.5	39	75.0	13	25.0	118	100
9	Ability to apply information literacy skills for information retrieval	34	51.5	32	48.5	43	82.7	9	17.3	118	100
10	Ability to apply ICT skill for information retrieval	51	77.3	15	22.7	47	90.4	5	9.6	118	100
11	Ability to apply other skills for information retrieval	2	3.0	64	97.0	0	0	52	100	118	100

**Source:** Field Survey, 2020**Key:** (AP) Applied, (NAP) Not Applied

Table 3 indicates the application of information skills for retrieval of information by LIS postgraduate students in university libraries in ABU to include: skills for using catalogue, indexes and abstracts, reference and information services, search strategic skills, skill for using databases, information literacy skill and information and communication technology skill with more than the bench mark of 50% percentage scores of 63.6%, 57.6%, 54.5%, 60.6%, 57.6%, 51.5% and 77.3% respectively were the information skills mostly applied for information retrieval by LIS postgraduate students in university library in ABU, while the respondents of BUK applied all the items mentioned in the Table for information retrieval with good percentage scores beyond the yard stick adopted.

However, the information skills that are not applied for information retrieval by LIS postgraduate students in ABU with less than 50% standard response rate were: bibliographic skill, skill for using institutional repositories and others with their percentage scores of 45.5%, 45.5% and 3.0% respectively.

From the above findings, it could be deduced that LIS postgraduate students in both ABU and BUK applied most of the information skills in particular for information retrieval. The



finding is in harmony with Nkoyo and Nsanta, (2016) revealed that electronic resources were available in the Library and postgraduate students utilized them. But online databases and institutional repositories were not utilized as expected despite their availability. The implication of this finding is that if LIS postgraduate students do not effectively apply information skills they would not be able to access and retrieve information particularly on current trends in their field of studies and this may delay them for progress in their research work.

### Extent of Application of Information skills for retrieval of information

The second research question sought to ascertain the extent of application of information skills in the area of information retrieval by postgraduate students. Table 4 shows their responses.

**Table 4: Extent of Application of Information skills for retrieval of information**

S/ N	Statements	Extent of Application									
		UNI V	HA	A	FA	N A	U	T	M	SD	R
1	The extent of the ability for applying catalogue for information retrieval	ABU	18	2 2	7	10	9	6 6	3.4 5	0.1 2	A
		BUK	9	2 2	10	5	6	5 2	3.4 4	0.1 6	A
2	The extent of the ability for using indexes and abstracts for information retrieval	ABU	12	3 4	6	10	4	6 6	3.6 1	0.1 6	A
		BUK	4	1 9	14	6	9	5 2	3.0 6	0.4 7	A
3	The extent of the ability for using reference and information services for information retrieval	ABU	17	2 9	10	5	5	6 6	3.7 3	0.1 0	A
		BUK	6	2 8	13	2	3	5 2	3.6 2	0.3 8	A
4	The extent of the ability for using bibliographies for information retrieval	ABU	8	3 0	9	5	1 4	6 6	3.2 0	0.2 2	A
		BUK	5	2 2	11	5	9	5 2	3.1 7	0.3 6	A
5	The extent to apply search strategic skills for information retrieval	ABU	24	2 0	12	1	9	6 6	3.7 4	0.8 1	A
		BUK	13	2 2	8	2	7	5 2	3.6 2	0.3 4	A
6	The extent of the ability to apply skill for using databases for information retrieval	ABU	17	2 5	4	6	1 4	6 6	3.3 8	0.2 6	A
		BUK	10	2 4	9	2	7	5 2	3.5 4	0.3 5	A
7	The extent of the ability to apply skill for using institutional repositories for information retrieval	ABU	10	2 7	9	7	1 3	6 6	3.2 1	0.1 7	A
		BUK	4	1 4	11	9	1 4	5 2	2.7 1	0.4 7	R
8	The extent to apply skill for	ABU	12	2	8	8	1	6	3.0	0.1	A

	using OPAC for information retrieval			2			6	6	9	4	
		BUK	7	2 1	9	5	1 0	5 2	3.1 9	0.2 4	A
9	The extent of the ability to apply information literacy skill for information retrieval	ABU	16	1 9	7	9	1 5	6 6	3.1 8	0.1 3	A
		BUK	19	1 2	12	2	7 2	5 2	3.6 5	0.3 4	A
10	The extent of the ability to apply ICT skill for information retrieval	ABU	21	2 9	6	2	8	6 6	3.8 0	0.3 7	A
		BUK	21	1 5	5	2	9	5 2	3.7 1	0.3 6	A

**Source:** Field Survey, 2020

**Key:** Highly Applied (HA), Applied (A), Fairly Applied (FA), Not Applied (NA), Undecided (U), Total (T), Mean (M), Standard Deviation (SD), Remark (R), Accepted (A) and Rejected (R)

Table 4 shows the extent of application of information skills in the area of information retrieval by LIS postgraduate students of ABU and BUK in university libraries. Using the parameter Mean of 3.00, the respondents were accepted on all except one of them mentioned in Table 4 with the Mean rating of 3.00. It can therefore be inferred that LIS postgraduate students in North-Western States, Nigeria applied high information skills in almost all outlined for information retrieval in federal university libraries. This could be attributed to their knowledge of library and information science acquired during their undergraduate programme and their familiarity of LIS postgraduate students with university libraries. The finding is contrary to that of Afebende and Nna-Etuk (2019) findings on their study that investigated the influence of information retrieval skill on the utilization of library resources by undergraduate students in Federal university libraries in South-South Zone, Nigeria. The study equally revealed that knowledge of library skills for information retrieval tools is relatively low in the institutions studied.

The implication of this result is that postgraduate students applied high information skills for retrieval of information and it would greatly influence their information retrieval abilities because skills for the use of library and information centre particularly university libraries would enable students to know variety of information sources, resources and services provided by university libraries. Otherwise, information skills alone will not result to effective information retrieval in university libraries.

### Hypothesis One

Ho1: There is no significant difference in the extent of application of information skills for retrieval of information by LIS postgraduate students of Federal university libraries in North Western States of Nigeria.

**Table 5:** Output Independent Sample T-test on difference in the extent of application of information skills for retrieval of information by LIS postgraduate students of Federal university libraries in North Western States of Nigeria.

Group	N	Mean	SD	t-cal	Df	p-value	Decision
ABU	66	38.0	14.42	0.215	116	0.830	Not Sig.
BUK	52	37.4	13.44				

Source: IBM SPSS Computation, 2020

Significance Level.05

Table 5 clearly indicates that there is statistically no significant difference in the extent of application of information skills for retrieval of information by LIS postgraduate students of Federal university libraries in North Western States of Nigeria as determined by independent sample t-test ( $t_{116} = 0.830, P > 0.05$ ). This implies that null hypothesis which stated ‘There is no significant difference in the extent of application of information skills for retrieval of information by LIS postgraduate students of Federal university libraries in North Western States of Nigeria’ was retained. From this finding, it could be inferred that, the extent of application of information skills for retrieval of information by LIS postgraduate students of ABU and BUK were relatively the same.

### Conclusion and Recommendations

Information skills application by LIS postgraduate students has facilitated the extent of information retrieval in university libraries, except in the area of institutional repository, databases, OPAC. From foregone findings of this study, skill for using catalogue, indexes and abstracts, reference and information services, OPAC, bibliographic skill, information literacy skill and ICT skill are the information skills applied for information retrieval by LIS postgraduate students in Federal universities in North Western States, Nigeria. On the other hand, the study revealed that LIS postgraduate students in federal universities studied were highly applied information skills in respect to skill for using catalogue, indexes and abstracts, reference and information Services, bibliographic skill, search strategic skill, skill for using databases, skill for using OPAC, information and communication technology skill for information retrieval. However, search strategic skills, skill for using databases and skill for using institutional repositories were not acquired and applied for information retrieval and access in academic libraries by LIS postgraduate students in Federal University Libraries North Western States Nigeria. Based on the foregoing findings of this study, the following recommendations were made:

1. The department of Library and Information Science in the respective universities (ABU, Zaria and BUK) should organize seminar for not only LIS postgraduate students and entire postgraduate students at the beginning of each academic session in respect to search strategic skills, skills for using databases and skills for using institutional repositories bibliographic skills and other skills that assist in accessing and retrieving information resources in university libraries.
2. The university libraries should conduct user education programme at the beginning of each academic session via seminar, direct reference service, the use of university website, library notice board, public information system, handbills in respect to skills for using institutional repository.

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