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INFORMATION LITERACY SKILLS AND RESEARCH PRODUCTIVITY OF ACADEMIC STAFF IN FEDERAL UNIVERSITIES IN NORTH-EAST ZONE, NIGERIA

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Abstract
The study investigated the information literacy skills and research productivity of academic staff in the federal universities in North-Eastern, Nigeria. Quantitative research methodology was adopted using survey design; three thousand two hundred and twenty-three (3,223) academic staff from the six federal Universities in the zone served as population of the study, three hundred and ninety-seven respondents (356) sampled, using proportionate stratified random sampling techniques, Questionnaire were the instrument used for data collection. Five research questions were answered and one hypothesis tested at 0.01 level of significance. The data were analyzed using Statistical Package for Social Science (SPSS 21.0). The findings of study revealed that the Information Literacy Skills of Academic staff in the federal universities North-East, Nigeria, is low, so also their research productivity. The study recommended among others that, the academic staff in the Universities should avail themselves of the available information technology training and workshops so as to enhance their information literacy skills. Finally, the study recommends the need for collaboration between the managements of federal universities in the North East, to organize and sponsor workshops, seminars, conferences, etc, so that the academic staff can improve their research productivity

Keywords: Academic staff, Information Literacy, Research productivity

Introduction
Individual development and academic growth in any university is largely determined by level of information literacy skills, research productivity and publication by academics. The production of knowledge through the process of research and scholarship is the fundamental principle of university's mission. Universities generally are established to perform three core functions, namely: teaching, research and community service with overall aim to produce trained manpower for essential areas of social development Adofu (2021). In support of the above assertion Evans, Simisaye & Okpe (2013) stated that, the primary role of university is the transmission of knowledge that could lead to the advancement of societies. Universities globally place emphasis on research productivity and publication. Notwithstanding, research productivity and publications refer to the work and research that are published in journals, book chapters book, monographs, articles,

technical reports, bulletins, conference papers, working papers, short communication papers, and patents. Research productivity, according to the objective and mission of any university, is seen as the measure or the required output expected by an academic staff. While research productivity enables the academics to be recognized nationally and internationally through the quality of their research carried out. Okafor (2011) succinctly define research productivity as a means by which academics contribute their own knowledge to the existing body of knowledge. In similar vein, Creswell (2008) stated that research output are not only meant for solving practical problems but they also provide opportunities to acquire new ideas that will help to improve human understanding, socially, economically and culturally. Globally, it is acceptable that academic research productivity plays an important role in advancing the prosperity of a nation and its citizens; especially in the era of knowledge base (Abbot and Doucouliges, 2004).

Research publication on the other hand, provides current information for growth, progress, development of an improved society. Staff promotions even to the rank of a professor are based significantly on publication irrespective of gender and status. Research attainment is determined by number of published articles in refereed journals and conference proceedings of repute. However, the existence and relevance of academic research in any university system depends on the ability of academic staff and students to exploit available information resources either print or in electronic formats. Therefore, for academics to be successful in their publication it is obvious that they need to have information literacy skills in other to harness information resources at their disposal and to use information for their research activities.

Statement of the Problem

The researcher observed that the research productivity of academic staff in Federal Universities in Northeast Zone, Nigeria, appears to be higher in journal publications, occasional papers, and scientific peer-reviewed bulletin but very low in text book publication, book chapters, technical report etc, when compared with their counterpart in the advanced world. Also, a careful perusal of the available literature indicated that on the average the ICT skills and information skills of academic staff in the zone are not adequate. However, one of the main causes of poor performance among academic staff in Nigerian universities can be attributed to lack of information literacy competency, such as internet search skill, computer skill, information searching skill (Okiki and Mabawonku, 2013). This has continued to negatively affect the research productivity and publication of academic staff in Nigeria. Therefore, it is against this backdrop that this research is aimed at investigating of information literacy skills and research productivity of academic staff of Federal Universities in North East.

Research Objectives

The main objective of this study is to find out the information literacy skills and the research productivity of the academic staff in federal universities in Northeast Nigeria. The specific objectives are to:

1) To determine the information literacy skills acquired by academic staff in the federal universities in North Eastern zone of Nigeria;
2) To examine the sources of information literacy skills of the academic staff in the federal universities under study;
3) To determine the frequency of research publication output of the academic staff in the federal universities understudy;

Research Hypothesis

The following null research hypotheses guided the conduct of this study and tested at 0.05 levels of significance.

1) Ho1: There is no significant relationship between Information Literacy and Research Productivity of academic staff of federal universities under study.

Methodology

The research design considered appropriate and used for this study was survey research designs. The purpose of research design is to plan for generating empirical evidences that would be used to answer research questions and test hypothesis. The researcher chose the survey research design because it has the capacity to study large and small population by selecting and studying samples chosen from the population to discover the relative incidence distribution and interrelations of sociological and psychological variables (Osuala 2005). It also helped the researcher in gathering data at a particular point in time, with the intention of describing the nature of existing condition and was compared or determining the relationship that exist between specific events.

The research environment within which the study was conducted is six federal universities in the Northeast Nigeria, a region within which the researcher applied the choosing methodology. Northeast is the third most populated region in Nigeria; with six states namely Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe state. One federal university is located in each of the states. The researcher chose to carry out the study in these universities in the regions because they were all federal universities and for generalization of result. The universities are as follows

1. Abubakar Tafawa Balewa University, Bauchi (ATBU)
2. Federal University, Kashere, Gombe State
3. Modibbo Adama University of Technology (MAUTEC), Yola
4. Federal University Wukari, Taraba State
5. University of Maiduguri, Maiduguri
6. Federal University, Gashua, Yobe State

In order to determine the population and information literacy skills programme in the universities under study, a preliminary study was considered imperative and conducted by the researcher. The objective of the preliminary study was to find out:

- The number of federal universities in the North East Zone, Nigeria.
- The year the universities were established.
- The population of academic staff in each of the Federal University in the zone.
- The availability of information literacy skills programme in the universities

The findings also revealed a total number of three thousand two hundred and twenty-three (3223) academic staff in the universities under study.

Table 1: Population of the Study

S/N	Universities	Year of Establishment	Academic Staff population
1.	Abubakar Tafawa Balewa University Bauchi	1988	921
2.	Modibbo Adama University of Technology, Yola	1988	624
3.	University of Maiduguri	1975	1013
4.	Federal University, Wukari	2011	198
5.	Federal University, .Kashere	2011	256
6.	Federal University, Gashua	2013	211
	Total	**-**	**3,223**

Sampling Techniques

For the purpose of this study Yamane's sampling techniques is considered to be appropriate. The researcher found it useful to apply these techniques in order to minimize bias or something of that nature, since the research was designed to determine the level of information literacy skills and research productivity of the academic staff.

Sample size

The sample size for the academics was calculated based on Yamane's formula cited in Abubakar (2013) and was drawn from each of the universities under study.

Yamane Formula and Sample Procedure

$$n = \frac{N}{1 + N(e)^2}$$

Where N = Total Population
e = Level of precision
n = sample size

Thus, the sample for the study was derived using the formula

$$S = \frac{N}{1 + N(e)^2} = \frac{3223}{1 + 3223(0.05)^2}$$

$$S = \frac{322_3}{9.0_6} = 35_6$$

Total number of respondents drawn per university involved in the Federal Universities in North East Nigeria is 356

Sample Size Distribution

Table 2: Sample Size Distribution

S/N	Universities	Population of Academic Staff	Sample Size
1.	Abubakar Tafawa Balewa University Bauchi	921	102
2.	Modibbo Adama University of Technology Yola	624	69
3.	University of Maiduguri	1013	112
4.	Federal University, Wukari	198	22
5.	Federal University, Kashere	256	28
6.	Federal University, Gashua	211	23
	Total	**3,223**	**356**

Research Instrument

The research instrument that was used in collecting data was questionnaire.

Data Analysis

Table 3: Information Literacy Skills Acquired by Academic staff

S/N	Questionnaire Item	D	UD	A	Mean	SD
	Information Need Skills					
1	Ability to recognize the need for information to complete a specific task	10	0	312	3.94	0.35
2	Ability to identify the information need for research and teaching activities	10	0	312	3.94	0.35
3	Ability to identify the general-purpose information	312	5	5	2.05	0.28

4	Ability to formulate question which will guide the information needed	175	10	137	2.88	0.98
5	Ability to use the different resources to satisfy the needed information	322	0	0	2.00	0.00
	Location Skills					
6	Ability to use abstracting and indexing database to find information	10	0	312	3.94	0.35
7	Ability to use search engine or electronic data base to locate information	0	5	317	4.92	0.32
8	Ability to use reference resources and locate the required information	10	0	312	3.94	0.35
9	Ability to use library catalogue/OPACS effectively to locate the needed information	10	147	165	3.48	0.56
	Evaluation Skills					
10	Ability to evaluate information resources irrespective of the sources	317	5	0	0.02	0.12
11	Ability to evaluate print resources using the acceptable criteria	185	137	0	2.43	0.50
12	Ability to evaluate information resources based on authority, accuracy and relevance	322	0	0	2.00	0.00
13	Ability to analyze the collected information	142	175	5	2.57	0.52
14	**Use Skills**					
	Ability to develop new knowledge and understanding from collected information	165	137	20	2.55	0.61
15	Ability to use appropriate presentation of software to present information	0	0	322	4.00	0.00
16	Ability to use the collected information in a legally accepted manner	307	0	15	2.09	0.42
17	Ability to use acceptable writing and citation styles to present result	165	0	157	2.98	1.00

As indicated in Table 3 the responses to information literacy skills shows that respondents with ability to use search engine or electronic database to locate information had the highest number of mean score of 4.92.This is closely followed by respondents with ability to use appropriate presentation of software to present information 4.0, while respondents with ability to recognize the need for information to complete a specific task and ability to identify the information need for research and teaching activities have mean score of 3.94 each respectively. However, respondents with skills to use different resources to satisfy the needed information and ability to evaluate information resources based on authority; accuracy and relevancy have the lowest mean of 2.00. The finding, however, shows that the mean scores of thirteen out of the seventeen components tested under the information literacy skills is higher than the mid-point scores of 2.5 on a scale of five. Therefore, academics in Nigerian federal universities in the North east possessed low information literacy skills based on the overall mean scores

Table 4: Types of Information Literacy Skill Sources, available in the Universities

S/N	Program/Course	YES (%)	NO (%)
1	Workshop and Training on the use of ICTs	96.9	3.1
2	Training on the use of Electronic Resources	54.3	45.7
3	Library Orientation Programme	47.2	52.8
4	Workshop and Training on Information Searching and Retrieval	54.3	45.7
5	User Education Programme	3.1	96.9
6	By trial and Error	54.3	45.7
7	Self-study (user guide)	20.5	79.5
8	Introduction to Google search engine	0	100
9	Introduction to Citation techniques and Reference Style	0	100

The result in Table 4 shows that the academics in federal universities under study acquired information literacy skills mainly through attending workshops/seminars (96%), workshop training on information searching retrieval (54%), trial by error (54%), and guidance from library staff (47%). Hence, it could be inferred that academic staff acquire information literacy skill mostly through attending workshops/seminars, self -taught, trial by error, user education. Introduction to Google search engine citation techniques and references style, were not accepted as source of IL skills.

Table 5: The Research Productivity of Academic Staff in Federal Universities in North-East within a period of 5 years (2010-2015)

S/N	Research publication	2010		2011		2012		2013		2014		2015		Total $\bar{\times}$
		$\bar{\times}$	SD	$\bar{\times}$	SD	$\bar{\times}$	SD	$\bar{\times}$	SD	$\bar{\times}$	SD	$\bar{\times}$	SD	
1	Textbooks	0.09	0.28	1.9	0.33	1.71	0.46	1.63	0.63	1.83	0.48	1.75	0.69	1.48
2	Chapters in book	0.02	0.12	1.61	0.80	1.48	0.50	1.52	0.67	1.76	0.58	1.78	0.68	1.36
3	Co-authored textbook	1.66	0.59	0.01	0.96	2.01	0.74	0.09	0.28	1.85	0.48	1.68	0.52	1.34
4	Monographs	1.63	0.60	0.02	0.12	1.83	0.58	1.94	0.52	1.79	0.46	1.33	0.89	1.42
5	Occasional papers	1.59	0.97	1.33	0.89	1.59	0.97	1.78	0.09	2.26	0.54	2.42	0.80	1.82
6	Articles in learned journals	2.68	0.68	2.25	0.95	2.45	0.67	2.01	0.10	2.77	1.12	2.17	0.51	2.39
7	Technical reports	1.77	0.61	1.57	0.74	1.97	0.67	1.68	0.67	1.49	0.53	1.78	0.52	1.71
8	Scientific peer-reviewed	1.75	0.69	1.52	0.67	1.33	0.89	1.94	0.58	1.78	0.52	1.66	0.59	1.66
9	Conference papers	2.45	0.67	2.42	0.87	2.28	.065	2.89	0.80	2.16	0.84	2.22	0.94	2.30

Key: *0.5 to 1.50 = Low Extent, 2.00 to 2.50 = low and 2.50 to 3.00 = High,* $\bar{\times}$*= Mean*

In order to determine the level of research productivity of the respondents, research publication within a 5 years' period (2010- 2015), and number of publications each year the result shown in table 4.5 indicate that there is very low research productivity of the respondents as only articles in learned journals and conference proceeding were found to have the total mean score of 2.39 and 2.30

respectively which are below 2.50 indicating low. The finding further revealed that the respondents have low research productivity in textbooks; chapters in books and co-authors text books because they were found to have a total mean score of 1.48, 1.36, 1.34 and 1.42 on the scale of 5.00 respectively.

Summary

On the information literacy skills of academic staff, result shows that academic staff in federal universities, North East Nigeria possessed low information literacy skills based on the overall mean scores. The result of this study agrees with Kari (2006) that most academics' level of information literacy skills do not extend beyond the basic of web searching (use of search engine like Google and data base to locate information) as well as that of Safahieh and Asemi (2008) which their findings showed that majority of the respondents had not yet possessed a good level of information literacy skills and even their long duration experience of teaching and learning has not necessarily improved their level of information literacy skills. The finding also supports a recent study by James (2012) on the assessment of information literacy skills of academic librarians of Federal University of Technology, Owerri, which revealed that majority of the respondents, were not computer and information literate and have not acquired enough information literacy skills.

Discussion of Findings

According to the analysis of the data on the sources of Information Literacy Skills in the federal universities in North-East Zone Nigeria, the findings of the study revealed that workshop and Training on the use of ICTs, Training on the use of Electronic Resources, Workshop and Training on Information Searching and Retrieval By trial and Error got the higher percentages. The implication of these findings is that the federal universities in North East Nigeria provide almost half of the sources although practice may vary in dealing with the issue of information literacy at different institutions, but Barbour, et al. (2004) contend that educators are realizing that the learning environment must be restructured so that it makes full use of technological innovations as well as meets the objectives of information literacy, computer literacy and lifelong learning in academics' chosen fields of research.

The findings from Table 5 revealed that academic staffs of federal universities North East Zone, Nigeria have low research productivity. This finding is in line with the study carried out by Okafor (2011), where the researcher's finding shows that, academic staff in the University of Nigeria Nsukka have low research productivity.

Also, from Table 5 findings further revealed that research publications within the year's period (2010-2015) article in learned journal, conference proceeding, occasional papers top the list while, scientific peer reviewed bulletin and technical report followed respectively.

The result of this study is also in agreement with the findings of a qualitative study conducted by Suraweera, et al (2012) on e-learning in information management education in Sri Lanka.

Conclusion

Information literacy skills are indispensable tools for the success of every academic activity in the university education. The independent lifelong learning productivity of the Nigerian academics and research effectiveness as demanded by the paradigm shift in the knowledge-based economy can only be enhanced via the provision of the components of Information Literacy Skills, good understanding of

the concept, policy formulation and collaboration among faculty and library with pedagogical knowledge and skills necessary for imparting same knowledge and support the academics staff who are the pivot of university education.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Academic staff in the federal universities in North-East Zone, Nigeria possessed low information literacy skills. Effort must therefore be made to make in providing basic components of information literacy to academics for enhancement of acquisition of requisite knowledge and to effectively evaluate and conceptualize their information needs and access in a project-based learning approach for decision making.
2. The academic staff of federal universities North-East Zone, Nigeria should avail themselves the available information technology training and workshops so as to enhance their information literacy skills. Their managements should come to the aid of the academic staff by sponsoring their information literacy training and workshops where most of these skills will be acquired.
3. There is a need for the managements of federal universities in North-East Nigeria to sponsor and encourage collaboration among librarians and faculty members toward information literacy facilitation, and also to provide policy statement that would assist academics toward their improving their research productivity.

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