

## INFORMATION LITERACY SKILLS AND SCHOLARLY PUBLICATIONS OUTPUT OF LECTURERS IN FEDERAL UNIVERSITIES IN THE NORTH- CENTRAL, NIGERIA

By

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### Abstract

This study investigated Information Literacy Skills (ILS) as predictors of lecturers' Scholarly publications output (SPO) in federal universities in the North-central Nigeria. Descriptive survey research design was adopted. The seven federal universities in the North-central, Nigeria were enumerated with a population of 5185 lecturers. Stratified random sampling technique was used to select 60% of departments in each of the universities. Disproportionate stratified random sampling technique was used to select 1065 lecturers (five per department). Two questionnaire constructed by the researcher were used for data collection. Cronbach alpha was used to validate the ILS instrument after trial tested on 30 respondents and a reliability coefficient of ( $\alpha=0.81$ ) was obtained, while a test re-test analysis was carried out on SPO using Pearson product moment correlation (PPMC) analysis and the result yielded  $r = 0.75$ . These results were high enough to consider the instruments reliable. Data was analysed using mean, standard deviation and inferential statistics such as PPMC at 0.05 level of significance. Findings revealed that lecturers have moderate level of lecturers' ILS (weighted  $\bar{x} = 2.61$ ) as against the threshold of 2.50. ILS ( $r=0.58$ ) had significant relationship with SPO. This shows that ILS positively influenced SPO of lecturers in federal universities in the North-central, Nigeria. Therefore, universities should prioritize the implementation of ILS programs to boost research capacity of lecturers.

**Keywords:** Information literacy skills, scholarly publications output, lecturers in federal universities, North-central, Nigeria.

### Introduction

Research is central to all levels of human endeavours and nations across the world recognize this indispensable phenomenon, and seek ways to use the products of research to solve problems bedeviling humanity. The outcome of research is expected to enhance acquisition, development and inculcation of proper value orientation for the survival of the

individual and the society. It is important to state that most research activities take place in universities across the world. Accordingly, the federal government of Nigeria invests resources to establish universities across the country, to push the frontiers of knowledge in different disciplinary backgrounds through research (Eze, Okpala & Ogbodo, 2014). Despite government concerted efforts in research and development, there are obvious signs that there is a decline in research activities and poor turnout of scholarly publications output (SPO) by lecturers in reputable disseminating channels in the North-central, Nigeria which could lead to inequalities in both human and social development (Umar & Ibrahim, 2023).

Attama (2013) explained that scholarly publications output constitutes the quantity of research works communicated through recognized publication outlets such as textbooks, book chapters, and jointly written books, books reviewed, monographs, patent and copyrights, articles in learned journals, conference proceedings, working papers and occasional papers. Kyaligonza (2015) highlighted textbooks, journal articles, occasional papers, working papers and chapters in terms of books as SPO. Scholarly publications output may be peer-reviewed and may appear as sole-authored articles, co-authorship, articles in press in recognized disseminating channels.

SPO is largely disseminated in English Language and recognized disseminating channels and is usually disseminated in a format that is comprehensible and acceptable to a larger research community. This perhaps could be the reason authors write in English language which is spoken by a large number of people including researchers worldwide to enable a wider distribution of their research output (Ecarnot, Seronde, Chopard, Schiele and Meneveau, 2015). Within the context of Nigerian university system, lecturers occupy established academic positions from the rank of a Graduate Assistant to Professor. University lecturers engage in teaching, research and community services. They are also involved in

creation, dissemination and preservation of knowledge to receive recognition in their chosen field of research and are appointed in accordance with statutory regulations which also give them academic freedom to carry out research within their disciplines.

Scholarly publications output is a clear indication of the dedication of lecturers to advancing knowledge in their respective fields. It enhances the academic reputation of their universities and contributes to the global pool of scholarly work. Lecturers prioritize the quality of their research contributions. Lecturers prioritize the quality of their research contributions. In attempts to improve the quantity and quality of their scholarly productivity, lecturers often engage in interdisciplinary research, collaborating across fields and disciplines. This approach may lead to the exploration of new perspectives and innovative solutions to complex challenges confronting the society.

Lecturers actively work with colleagues, both within and outside their universities, to produce research publications. Collaboration and co-authorship extend the reach and impact of research. Lecturers who engage in collaborative efforts contribute to a diverse and expansive network of scholarly connections (Okpe, Simisaye & Otuza, 2018). They also actively contribute to the dissemination of knowledge. Their publications make research findings and insights accessible to a wider audience, including students, peers, and the broader academic community. Lecturers who actively publish contribute to the collective growth of knowledge and serve as educators and mentors to the next generation of scholars.

Lecturers need to be motivated to sustain their interest in research. One of the fundamental motivating factors for lecturers to engage in timely and unending research activities is acquisition of appropriate information literacy skills (ILS). Lecturers are expected to demonstrate awareness of how information is gathered, used, managed, synthesised, and employed to create new information or data (Society of College, National and University

Libraries, 2011). Lecturers who possess advanced information literacy skills are better equipped to navigate the vast landscape of information resources, critically evaluate sources, and extract relevant data for their research. This signifies that information literacy skills empower lecturers to conduct more efficient and high-quality research. This, in turn, leads to an increase in scholarly publications, contributing to the body of academic knowledge.

Information literacy empowers faculty members to conduct more efficient and high-quality research, access a wide range of resources, critically evaluate sources and, streamline their research processes. Lecturers with strong information literacy skills can access a wide range of digital resources, including academic databases, research articles, and multimedia content. Their ability to effectively locate and utilize these resources facilitates comprehensive literature reviews and supports the development of well-informed research projects. Effective access to a broad spectrum of resources empowers lecturers to stay current with the latest developments in their fields, thereby enhancing the quality and relevance of their research publications (Jestin & Sorman, 2016).

Information literacy skills are closely associated with critical thinking and source evaluation. Lecturers who excel in information literacy possess the capacity to critically assess the credibility, relevance, and authority of sources, ensuring the integrity of their research. The ability to critically evaluate sources is a fundamental element of robust research. Lecturers who apply these skills produce publications that are grounded in sound methodologies and well-substantiated arguments, contributing to the academic community's knowledge base. Lecturers who excel in application of ILS to research are more likely to produce high-quality, impactful scholarly publications output.

Information literacy skills lead to greater research process efficiency. Lecturers who are proficient in information literacy can swiftly locate, evaluate, and incorporate relevant

information, resulting in shorter research cycles. Enhanced research process efficiency translates to quicker and more productive research endeavors. This efficiency enables lecturers to complete projects and publish findings in a timelier manner, contributing to their scholarly output.

Lecturers with strong information literacy skills are better equipped to teach and mentor students. Their ability to model information literacy practices contributes to the development of digitally competent and research-savvy graduates. Lecturers who foster information literacy skills in their students help create a future generation of scholars who are capable of contributing to scholarly discourse and knowledge advancement.

Despite the importance of SPO to lecturers' career advancement in the universities, studies revealed that a significant percentage of lecturers are yet to understand the best way to harness the potentials of ILS as a catalyst to improved research productivity (Belay & Bramo, 2017). Consequently, they are likely to find it difficult to retrieve information from diverse sources and this could slow down the pace at which they generate scholarly publications output. This study, therefore, investigates ILS as predictor of SPO of lecturers in federal universities in North-central, Nigeria.

### **Research questions**

1. What is the lecturers' level of ILS in federal universities in the North-central, Nigeria?
2. What are the types of SPO that are regularly published by lecturers in federal universities in the North-central, Nigeria?

### **Hypothesis**

HO.1: There is no significant relationship between ILS and SPO of lecturers in federal universities in the North-central, Nigeria.

### **Literature review**

Available literature shows that lecturers recognise the importance of ILS on research productivity; Babalola & Umar (2022) investigated influence of ILS on research productivity of academic staff of federal universities in the Northeastern, Nigeria and the findings revealed that the academic staff demonstrated high competence in the five dimensions of ILS tested. This greatly influenced their research productivity. Exploring the level of ILS among faculty members in Mizoram University, Chanchinmawia, Verma & Soni (2019) indicated that respondents had sufficient skills to find relevant information from library and internet sources for their research.

Using descriptive survey research design, Sharma & Lata (2019) investigated information literacy among faculty and students of Colleges in Punjab and Chandigarh and found that majority of the respondents relied heavily on online sites (WebMD, e-Medicine and Mayo Clinic) to obtain information for use. However, they were deficient in using advanced search techniques (Boolean operators) to retrieve desired information from databases. More evidence is provided by Babalola & Bakum (2023) that ILS has positive influence on research productivity of academic librarians in public universities in North-East, Nigeria.

According to Madu, Idoko, Dirisu & Emerole (2017) in their study on relationship between the Web 2.0 technology skills and academic productivity of staff in Nigerian universities in the North central geopolitical zone of Nigerian, there is positive relationship between the two variables which contributed to better research performance by the respondents. The findings by Hemmati (2017) on knowledge management and information literacy of faculty members and students in Shiraz University revealed that significant relationship existed between ILS and knowledge management among the respondents.

In another study, Belay & Bramo (2017) investigated electronic information literacy level among academic staff in Addis Ababa and Jimma University, Ethiopia and established

that the respondents exhibited adequate information literacy skills required to stimulate retrieval of information from relevant sources for research activities. However, Nwokedi & Nwokedi (2018) assessed information and communication technology training needs of academic staff in the Faculty of Medical Sciences, University of Jos, Nigeria and discovered that majority of the respondents lack access to good internet connectivity, adequate facilities and exhibited low information literacy skills which hindered efficient research performance by the respondents.

### **Methodology**

The descriptive survey research design was adopted. The population consisted of all 5,185 lecturers in the seven federal universities located in the North-central, Nigeria. A two stage sampling technique was adopted. At the first stage, 60% of all departments were selected using the stratified random sampling technique. This is consistent with Yamane (1976), who was cited by Popoola (2007) and stated that generalisations about the population of the study cannot be established until the sampling fraction for sample selection in a survey research is at least 60%. There are 354 departments in all federal universities in the North-central, Nigeria. As a result, 213 departments were randomly selected which represents roughly 60% of all the departments within each university. The second stage involved random selection of 1065 lecturers using the disproportionate stratified random sampling technique. Two questionnaire constructed by the researcher were the main data collection instrument. The instruments were given to experts for face and content validity. Cronbach alpha was used to validate the ILS instrument after trial tested on 30 respondents and a reliability coefficient of ( $\alpha=0.81$ ) was obtained, while a test re-test analysis was carried out on scholarly productivity scale using Pearson product moment correlation analysis and the result yielded  $r = 0.75$ . These results were high enough to consider the instruments reliable. Data were analysed using descriptive

statistics such as mean and standard deviation were used to answer the research questions, while the hypothesis was subjected to inferential statistics such as Pearson product moment correlation coefficient analysis.

## **Results and discussion**

A total number of 1,065 copies of the questionnaire were administered on respondents at their various universities. However, 1,021 copies of the questionnaire were duly completed and found usable given a response rate of 95.9%.

### **Research question one: What is the level of ILS of lecturers in federal universities in the North-central, Nigeria?**

Table 1a reveals the ILS of lecturers in federal universities in the North-central, Nigeria.



**Table 1a ILS of lecturers in federal universities in the North-central, Nigeria**

S/ N	Recognize information needs skills, I:	SD		D		A		SA		Mean ( $\bar{x}$ )	Std.
		F	%	F	%	F	%	F	%		
1	understand the need to use information resources to undertake research.	196	19.2	268	26.2	230	22.5	327	32.0	2.67	1.116
2	recognize a need for information and data to achieve a specific end.	220	21.5	119	11.7	292	28.6	390	38.2	2.83	1.155
3	cannot define my specific information resources needs.	304	29.8	466	45.6	132	12.9	119	11.7	2.06	.943
4	rely on students to search for required information resources for my research.	340	33.3	299	29.3	245	24.0	137	13.4	2.18	1.039
5	define my research topic using simple keywords	132	12.9	73	7.1	403	39.5	413	40.5	3.07	.994
6	am able to manage time effectively when using information sources.	146	14.3	139	13.6	416	40.7	320	31.3	2.89	1.005
	Weighted mean	$(\bar{x} = 2.62)$									
	<b>Information seeking strategies skills, I:</b>										
7	understand search techniques available to find information resources that are relevant to my research tasks	137	13.4	215	21.1	475	46.5	194	19.0	2.71	.924
8	have low understanding of the web as complex mix of free and fee based materials	347	34.0	412	40.4	137	13.4	125	12.2	2.04	.981
9	can initiate search strategies by using keywords and Boolean logic	196	19.2	194	19.0	475	46.5	156	15.3	2.58	.967
10	don't use controlled vocabulary specific to my discipline	351	34.4	411	40.3	134	13.1	125	12.2	2.03	.982
11	can limit search strategies by subject, language and date	137	13.4	196	19.2	279	27.3	409	40.1	2.94	1.062
	Weighted mean	$(\bar{x} = 2.46)$									
	<b>Locate and access skills, I:</b>										
12	have understanding of how my university library provide access to information resources	131	12.8	280	27.4	350	34.3	260	25.5	2.72	.983
13	do not understand the risks associated with using free internet resources for my research	420	41.1	271	26.5	134	13.1	196	19.2	2.10	1.141
14	know appropriate techniques to collect current information for my research	238	23.3	73	7.1	416	40.7	294	28.8	2.75	1.109
15	am able to *identify when available resources have not met my information need	104	10.2	198	19.4	328	32.1	391	38.3	2.99	.993
16	lack knowledge of data management software and techniques to manage data	178	17.4	337	33.0	349	34.2	157	15.4	2.48	.952
17	do not have knowledge to keep information for future use	176	17.2	157	15.4	243	23.8	445	43.6	2.94	1.130
18	use approved passwords for access to information resources I need for my research	198	19.4	133	13.0	218	21.4	472	46.2	2.94	1.169
	Weighted mean	$(\bar{x} = 2.70)$									
	<b>Use of information skills, I:</b>										
19	understand intellectual property, copyright, and fair use of copyrighted materials	194	19.0	84	8.2	349	34.2	394	38.6	2.92	1.106
20	do comply with university policies on access to information resources	311	30.5	163	16.0	329	32.2	218	21.4	2.44	1.133
21	am able to select resources which 'best fit' my research task	194	19.0	73	7.1	196	19.2	558	54.7	3.10	1.171
22	cannot identify different formats in which information may be stored for future use in my research.	390	38.2	296	29.0	198	19.4	137	13.4	2.08	1.052
23	find it less cumbersome to identify issues related to privacy and security in both the print and electronic environments	81	7.9	218	21.4	226	22.1	496	48.6	3.11	1.002
24	demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism and any other intellectual property issues	135	13.2	157	15.4	473	46.3	256	25.1	2.83	.952
25	have low understanding of issues surrounding copyright and plagiarism in research	435	42.6	348	34.1	198	19.4	40	3.9	1.85	.868
26	find it difficult to preserve the integrity of information resources and computer facilities	303	29.7	544	53.3	93	9.1	81	7.9	1.95	.839

	Weighted mean	$(\bar{x} = 2.54)$									
	<b>Synthesis skills, I:</b>										
27	understand that existing information can be combined with original thought, experiment and analysis to produce new information	81	7.9	186	18.2	483	47.3	271	26.5	2.92	.872
28	do not lack the needed skill to create new knowledge in my research work	121	11.9	246	24.1	416	40.7	238	23.3	2.76	.943
29	can synthesise newly gathered information with previous information	114	11.2	227	22.2	282	27.6	398	39.0	2.94	1.028
30	have low ability to reflect on problems I encountered	430	42.1	260	25.5	218	21.4	113	11.1	2.01	1.038

**Table 1a: ILS of lecturers in federal universities in the North-central, Nigeria (Cont'd)**

	Synthesis skills, I:	SD		D		A		SA		Mean ( $\bar{x}$ )	Std.
		F	%	F	%	F	%	F	%		
31	cannot use computer and other technologies for studying interaction of ideas and other phenomena	346	33.9	317	31.0	232	22.7	126	12.3	2.14	1.021
32	can determine the content and form the parts of both my written and oral presentation (introduction, statement of problem, conclusion)	79	7.7	104	10.2	412	40.4	426	41.7	3.16	.896
	Weighted mean	$(\bar{x} = 2.66)$									
	Evaluative skills, I:										
33	understand issues of quality, accuracy, relevance, bias reputation and credibility relating to information and data sources found for my research	252	24.7	112	11.0	394	38.6	263	25.8	2.65	1.112
34	my understanding of concept of accuracy, relevance and comprehensiveness of information resources is relatively low.	379	37.1	457	44.8	114	11.2	71	7.0	1.88	.864
35	can choose range of materials on topics, taking into account currency, bias, authority, accuracy, relevance and comprehensiveness	125	12.2	178	17.4	373	36.5	345	33.8	2.92	.998
36	have ability distinguish different information sources and the information they provide	187	18.3	195	19.1	289	28.3	350	34.3	2.79	1.105
37	lack the ability to read, analyse and select main ideas from information resources found for my research	284	27.8	302	29.6	241	23.6	194	19.0	2.34	1.078
	Weighted mean	$(\bar{x} = 2.52)$									
	Communicative skills, I:										
38	understand that data can be presented in different ways	40	3.9	170	16.7	461	45.2	350	34.3	3.10	.811
39	find it difficult to create bibliographic records and organise the bibliography for my research	285	27.9	530	51.9	81	7.9	125	12.2	2.05	.920
40	am able to cite bibliographic references in research reports.	73	7.1	174	17.0	238	23.3	536	52.5	3.21	.968
41	can select appropriate publications and dissemination outlets in which to publish	84	8.2	73	7.1	474	46.4	390	38.2	3.15	.873
42	can communicate effectively using appropriate publication channels	117	11.5	137	13.4	338	33.1	429	42.0	3.06	1.005
43	cannot communicate my research effectively and verbally	218	21.4	564	55.2	165	16.2	74	7.2	2.09	.811
	Weighted mean	$(\bar{x} = 2.78)$									
n = 1021; Overall Mean ( $\bar{x}$ = 112.38)											

The results in Table 1a shows that lecturers in the federal universities in the North-central, Nigeria exhibited moderate proficiency in information recognition, information seeking strategies, location and access to information, information synthesis, evaluation, communication and use of information. By extending this analysis to capture the subscales analysis of ILS, the finding further revealed that the most significant sub-scale is communicative skills ( $\bar{x} = 2.78$ ); followed by locate and access skill ( $\bar{x} = 2.70$ ); synthesis skill ( $\bar{x} = 2.66$ ); recognize information skill ( $\bar{x} = 2.62$ ); use of information skill ( $\bar{x} = 2.54$ ); evaluative skill ( $\bar{x} = 2.52$ ); and information-seeking strategies skill ( $\bar{x} = 2.46$ ).

**Table 1b: Level of ILS of the lecturers**

Variable	No of items	Likert points	Level scale	Overall mean ( $\bar{x}$ )	Decision
Information literacy skills	43	4	1 – 57	112.38	Moderate
			58 – 114		
			115 – 172		

Test of norm was carried to determine the level of ILS of lecturers. Results show that the overall mean ( $\bar{x} = 112.38$ ) for the lecturers' ILS falls between the scale "58-114". The test of norm scale: "1-57" means a low literacy level, "58-114" is moderate, while "115-172" is high. It could therefore be concluded that the level of lecturers' ILS in federal universities in the North-central, Nigeria is moderate. The result of the current study aligns with that of Nwokedi & Nwokedi (2017) which assessed the use of search engines by lecturers in the Faculty of Medical Sciences, University of Jos and revealed that the respondents were moderately equipped to retrieve information required for their work. The finding of this study also aligns with the position of Babalola & Umar (2022) who investigated the influence of ILS on research

productivity of academic staff of federal universities in the Northeastern, Nigeria and reported that the academic staff demonstrated average competence in the five dimensions of information literacy skills tested. However, the finding of this study contradicts the position of Sharma & Lata (2019) who investigated information literacy among faculty and students of Colleges in Punjab and Chandigarh and revealed that respondents were deficient in using advanced search techniques (Boolean operators) to retrieve desired information from medical databases.

**Research question two: What are the types of SPO regularly published by lecturers in federal universities in the North-central, Nigeria?**

Table 2 reveals the types of SPO regularly published by lecturers in federal universities in the North-central, Nigeria

**Table 2 SPO of lecturers in federal universities in the North-central, Nigeria**

S/N	Scholarly publication outputs of lecturers	FU Lafia		FU Lokoja		FUT Minna		U of Abuja		UA Makurdi		U of Ilorin		U of Jos	
		Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.	Mean ( $\bar{x}$ )	Std. Dev.
1	Textbooks 2014	1.22	.428	1.20	.422	1.21	.410	1.22	.417	1.26	.445	1.20	.400	1.21	.407
2	Textbooks 2015	1.79	.415	1.79	.426	1.83	.383	1.90	.707	1.81	.397	1.81	.392	1.81	.392
3	Textbooks 2016	1.35	.709	1.47	.834	1.36	.684	1.36	.698	1.35	.694	1.36	.684	1.37	.707
4	Textbooks 2017	1.69	.480	1.83	.408	1.74	.449	2.43	1.775	1.68	.477	1.75	.436	1.76	.435
5	Textbooks 2018	1.00	.000	1.00	.000	1.00	.000	1.13	.894	1.00	.000	1.00	.000	1.00	.000
6	Chapters in books 2014	1.38	.506	1.38	.518	1.32	.476	1.71	1.436	1.36	.492	1.33	.473	1.34	.479
	Chapters in books 2015	1.06	.243	1.11	.333	1.06	.242	1.06	.239	1.03	.186	1.09	.283	1.08	.269
7	Chapters in books 2016	1.38	.506	1.50	.535	1.36	.490	1.56	1.013	1.36	.492	1.39	.491	1.40	.495
8	Chapters in books 2017	1.06	.243	1.14	.378	1.06	.250	1.06	.239	1.03	.180	1.09	.289	1.08	.281
9	Chapters in books 2018	1.18	.393	1.11	.333	1.22	.420	1.19	.397	1.23	.430	1.18	.388	1.18	.385
10	Books reviewed 2014	1.00	.000	1.00	.000	1.00	.000	1.11	.465	1.00	.000	1.00	.000	1.00	.000
11	Books reviewed 2015	1.14	.351	1.07	.267	1.11	.317	1.14	.345	1.13	.345	1.11	.308	1.10	.308
12	Books reviewed 2016	1.43	.507	1.42	.515	1.39	.495	1.40	.497	1.43	.502	1.41	.494	1.40	.494
13	Books reviewed 2017	1.33	.485	1.38	.518	1.29	.462	1.34	.482	1.28	.457	1.33	.474	1.32	.471
	Books reviewed 2018	1.27	.456	1.42	.515	1.28	.452	1.28	.454	1.23	.427	1.31	.465	1.31	.466
14	Monographs 2014	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
15	Monographs 2015	1.25	.447	1.17	.408	1.21	.412	1.25	.440	1.23	.430	1.20	.403	1.20	.407
16	Monographs 2016	1.25	.447	1.30	.483	1.23	.430	1.24	.435	1.25	.441	1.24	.428	1.25	.434
17	Monographs 2017	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
18	Monographs 2018	1.16	.375	1.13	.354	1.22	.417	1.18	.393	1.17	.378	1.20	.402	1.19	.396
19	Patent and copyrights 2014	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
20	Patent and copyrights 2015	1.08	.289	1.20	.447	1.09	.288	1.08	.282	1.04	.209	1.12	.333	1.12	.324
21	Patent and copyrights 2016	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
22	Patent and copyrights 2017	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
23	Patent and copyrights 2018	1.33	.492	1.33	.516	1.30	.470	1.32	.476	1.33	.483	1.31	.467	1.31	.468
24	Articles in learned journals 2014	2.24	1.315	2.43	1.376	2.12	1.235	2.27	1.297	2.22	1.299	2.22	1.256	2.24	1.279
25	Articles in learned journals 2015	2.00	1.343	2.16	1.551	2.05	1.321	2.02	1.332	1.99	1.317	2.03	1.317	2.03	1.348
26	Articles in learned journals 2016	1.87	1.123	2.11	1.197	1.92	1.146	1.89	1.120	1.86	1.109	1.93	1.124	1.95	1.131
27	Articles in learned journals 2017	2.05	1.420	1.93	1.269	2.11	1.481	2.10	1.451	2.05	1.431	2.11	1.438	2.07	1.423
28	Articles in learned journals 2018	1.82	1.760	1.52	1.387	1.85	1.750	1.86	1.786	1.86	1.774	1.79	1.688	1.77	1.670
29	Conferences proceedings 2014	1.18	.395	1.27	.467	1.18	.393	1.19	.397	1.18	.393	1.19	.390	1.20	.401
30	Conferences proceedings 2015	1.31	.466	1.29	.460	1.32	.467	1.31	.465	1.33	.473	1.31	.463	1.31	.462
31	Conferences proceedings 2016	1.55	.736	1.46	.660	1.48	.700	1.56	.732	1.55	.730	1.47	.688	1.48	.689
32	Conferences proceedings 2017	1.39	.652	1.32	.612	1.37	.626	1.37	.631	1.40	.638	1.38	.631	1.37	.626
	Conferences proceedings 2018	1.81	.910	1.73	.961	1.84	.930	1.85	.910	1.81	.878	1.82	.949	1.81	.934

33	Working papers 2014	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000	1.00	.000
34	Working papers 2015	1.30	.465	1.27	.458	1.27	.446	1.28	.452	1.30	.465	1.25	.434	1.26	.442
35	Working papers 2016	1.24	.437	1.14	.378	1.19	.402	1.24	.431	1.23	.425	1.18	.388	1.19	.393
36	Working papers 2017	1.40	.724	1.27	.594	1.43	.742	1.37	.692	1.42	.723	1.39	.711	1.39	.711
37	Working papers 2018	1.18	.395	1.25	.452	1.18	.385	1.18	.387	1.19	.397	1.17	.379	1.19	.393
38	Occasional papers 2014	1.26	.442	1.16	.375	1.29	.456	1.27	.448	1.29	.457	1.25	.436	1.25	.432
39	Occasional papers 2015	1.13	.336	1.06	.250	1.10	.307	1.13	.336	1.13	.339	1.09	.294	1.10	.295
40	Occasional papers 2016	1.09	.285	1.05	.213	1.07	.255	1.09	.283	1.09	.281	1.07	.248	1.07	.248
41	Occasional papers 2017	1.48	.755	1.47	.743	1.49	.710	1.51	.746	1.48	.731	1.49	.720	1.49	.717
42	Occasional papers 2018	1.43	.959	1.32	.749	1.37	.885	1.44	.963	1.44	.957	1.35	.849	1.36	.853

Table 2 revealed that the main scholarly publications that were regularly published by lecturers in federal universities in the North-central, Nigeria are articles in learned journals and textbooks, conferences proceedings, occasional papers and book reviewed. The finding is in line with the submission of Adebowale (2023) who examined the relationship between social media (SN) use, work environment (WE), and research output among lecturers in private universities in Ogun State, Nigeria and discovered that lecturers have higher preference for publishing journal articles over other types of publications. In addition, the result of the current study aligns with the study of Falowo (2022) who investigated the research productivity level of academic staff of University of Ibadan (UI), Bowen University (BU) and Adekunle Ajasin University (AAU) and found that the respondents constantly published papers in conference proceedings and international journals.

**Hypothesis 1: There is no significant relationship between ILS and SPO of lecturers in federal universities in the North-central, Nigeria.**

Table 3 reveals the relationship between ILS and SPO of the lecturers.

**Table 3 Using Pearson Product Moment Correlation Statistical Analysis**

Variables	Mean	Std. Dev.	N	R	Df	Sig. (p)
Information literacy skills	112.38	8.100	1,021	.576**	1,020	.000
Scholarly publications output	15.47	1.468	1,021			

\*. Significant at 0.05 level

Based on Table 4 results, the test shows that a significant positive relationship ( $r = 0.576^{**}$ ;  $df = 1,020$ ;  $P < 0.05$ ) exists between ILS and SPO of lecturers in federal universities in

the North-central, Nigeria. This implies that ILS exhibited by the lecturers would encourage ethical and legal use of quality information in research by the lecturers. Therefore, hypothesis 1 is rejected. The result of the current study corroborates the findings of Babalola & Bakum (2023) who examined the influence of ILS on research productivity of academic librarians in public universities in North-East, Nigeria and submitted that the respondents' ILS had positive significant influence on their research productivity. But, this finding negates the position of Ubogu (2021) who examined the barriers to academic staff using electronic databases at the Delta State University Library in Abraka and revealed that lack of user education, low ILS and lack of guidance on use of databases hindered research activities by the respondents.

### **Recommendations**

The following recommendations are hereby made based on the findings of the study:

1. Universities should prioritise the implementation of ongoing faculty development programs that focus on enhancing information literacy skills and information security awareness. These programs should be tailored to the specific needs of faculty members and offered regularly to keep educators updated with evolving digital practices.
2. Universities should actively encourage interdisciplinary collaboration and knowledge sharing among faculty members. Incentives, platforms, and opportunities for cross-disciplinary research projects should be provided to foster innovative research.
3. Universities should implement evaluation and assessment mechanisms to gauge the effectiveness of faculty development programs and the integration of information literacy skills, information security awareness, and e-resources use in scholarly publications.



4. Policymakers and university administrators should allocate funding for faculty research projects and publications. Financial support can incentivise faculty to engage in research, leading to increased scholarly output.

## Conclusion

ILS determined the scholarly publications output by the lecturers. SPO serves as a beacon of academic achievement which signifies the contribution of lecturers to their respective fields and elevates the reputation of their universities. The journey from data collection to publication is multifaceted and thus demands strong ILS. As we contemplate these intertwined skills, it is clear that federal universities would have a vested interest in fostering a culture of continuous improvement in ILS and SPO among their lecturers. By providing the necessary resources, training and support, these universities can propel their lecturers to new heights of academic excellence, making valuable contributions to knowledge and society at large.

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