

# LEARNING ORGANISATION OF KNOWLEDGE IN THE DIGITAL ERA IN LIBRARY SCHOOLS IN SOUTH-WEST, NIGERIA

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## **Abstract**

*The persistent gap between available digital resources, their limited utilisation, and the challenges hindering adoption constitutes a critical problem that requires systematic investigation. This study examines the availability, utilisation, and challenges associated with learning knowledge organisation in library schools in South-west, Nigeria. A descriptive survey research design was adopted, targeting final-year LIS students across public and private institutions, who had completed cataloguing courses and undergone industrial training. Data were collected through questionnaire and analysed quantitatively. Findings*

*indicate that while conventional cataloguing and classification schemes remain dominant, the integration of digital cataloguing tools is limited due to infrastructural constraints, outdated curricula, and insufficient digital literacy among the students. The study reveals a disparity in resource availability, with some institutions equipped with modern cataloguing laboratories, while others lack essential facilities. It is indicated that while LIS students in South-west, Nigeria acknowledge the significance of digital knowledge-organising tools, they encounter considerable obstacles in achieving full utilisation. The study advocates for enhanced investment in digital cataloguing infrastructure, curriculum modernisation, faculty training initiatives, and establishing partnership collaborations for practical student training. These initiatives will enrich the learning experience, and more effectively prepare students for evolving professional demands in the digital knowledge economy.*

**Keywords:** *Organisation of knowledge, Digital cataloguing, Library education, Metadata management, South-west, Nigeria, LIS schools*

## **Introduction**

The organisation of knowledge lies at the heart of effective library and information service delivery, encompassing the systematic processes by which resources are described, classified, indexed, and made intellectually accessible. In the digital era, these processes have undergone a profound transformation: traditional print-based systems are being augmented (and in some cases replaced) by metadata schemas, linked data frameworks, and automated library management systems. This shift changes not only how knowledge is stored and retrieved, but also how it is taught in library schools.

The organisation of knowledge is a fundamental component of library and information science (LIS) education, providing students with the necessary skills to catalogue, classify, and retrieve information effectively. Library schools, particularly in Southwest Nigeria, play a crucial role in equipping students with competencies in

bibliographic control and metadata management. However, the extent to which these institutions have embraced digital technologies remains a subject of academic inquiry. Historically, knowledge organization in library education relied heavily on traditional cataloging and classification schemes such as the Dewey Decimal Classification (DDC), Library of Congress Classification (LCC), and Anglo-American Cataloguing Rules (AACR2). According to Hijji and Al-Busaidi (2019), library schools in South-west, Nigeria utilise AACR2, because it gives students a solid grasp of the fundamentals of bibliographic description, which is necessary for accurately and efficiently classifying library resources.

The transition to digital tools, such as Machine-Readable Cataloguing (MARC), Resource Description and Access (RDA), and BIBFRAME, has significantly improved the efficiency of knowledge organisation in library schools. Despite these advancements, research has shown that while students recognise the importance of digital cataloguing and classification tools, their practical application is often constrained by the unavailability of essential technologies (Oyetola, Oladokun, & Dogara, 2024). Many institutions in Southwest Nigeria continue to face challenges related to infrastructure, outdated curricula, and inadequate digital literacy among students and educators (Awodoyin & Okiki, 2023). Overcoming these obstacles will enhance knowledge of digital technology use in the organisation of knowledge and position library and information professionals as appropriate for contemporary practices.

Another emerging issue is the need to revise curricula to include linked data education. Sokari and Haliru (2024) surveyed cataloguing educators in Nigeria to establish a syllabus for linked data training; they found overwhelming support for covering linked data concepts, RDA entities, shared metadata schemas, and practical tools such as BIBFRAME and RDF, along with the requirement for well-equipped labs and reliable infrastructure (Sokari & Haliru, 2024). Their findings underscore the urgency of aligning LIS curricula with global metadata trends.

In summary, examining the teaching of knowledge organisation in library schools across Southwest Nigeria within the context of rapid technological change will yield meaningful insights. The outcomes of this inquiry can inform curriculum enhancements, guide staff development initiatives, and ultimately strengthen the preparation of cataloguers to meet the evolving requirements of the digital era.

### **Research Questions**

The following research questions guided the study:

1. What are the resources available in learning organisation of knowledge in the digital era in library schools in South West Nigeria?
2. What is the rate of utilisation of resources in learning organization of knowledge in the digital era in library schools in South West Nigeria?
3. What are the challenges confronting using resources in learning organisation of knowledge in the digital era in library schools in South West Nigeria?

4. What are the suggested solutions to the challenges confronting using resources in the learning organization of knowledge in the digital era in library schools in South West Nigeria?

### **Hypothesis**

One null hypothesis guided the study:

**HO<sub>1</sub>:** There is no significant difference between male and female utilization of resources in the learning of organization of knowledge in the digital era in library schools in South West Nigeria.

### **Review of Related Literature**

Before the emergence of digital resources, the organisation of knowledge in library schools depended on printed cataloguing and classification schemes and physical card catalogues. Printed cataloguing codes, such as the AACR2, Library of Congress Subject Headings, Sears' List of Subject Headings, Dewey Decimal Classification, and the Library of Congress Classification Scheme, among others, were traditionally used in learning cataloguing practices. These resources ensured foundational knowledge and critical thinking development. Despite offering a solid conceptual basis, these tools have drawbacks, including infrequent updates and accessibility restrictions. However, they are becoming insufficient in addressing modern information needs (Eze & Aduba, 2022). Students frequently find it difficult to modify conventional cataloguing and classification

for use in new digital contexts, necessitating more training in contemporary metadata management (Cheng et al., 2024).

The degree of utilisation of resources for knowledge organization education varies among library schools in South-west Nigeria, largely due to differences in infrastructural capacity, technological availability, and staff training (Moi, 2020). Consequently, many library schools continue to rely predominantly on traditional resources for knowledge organization instruction. Students learn cataloguing concepts via the Anglo-American Cataloguing Rules (AACR2) and manually generate catalogue records utilising printed cataloguing codes. The Dewey Decimal Classification (DDC) and the Library of Congress Classification (LCC) are two extensively used printed categorisation methods (Cheng et al., 2024). Numerous libraries have acknowledged the difficulties associated with traditional tools, including restricted accessibility and challenges in information updates (Eze & Aduba, 2022), necessitating the adoption of technology in knowledge organisation, which has compelled library schools to embrace emerging technologies.

The integration of MARC and RDA into LIS curricula facilitates database interoperability and automated metadata development, yet infrastructural gaps in Southwest Nigeria frequently hinder practical application (Awodoyin & Okiki, 2023). With advanced standards like BIBFRAME still in nascent stages (Moi, 2020), student engagement remains heavily contingent upon the availability and pedagogical integration of these digital tools.

Cataloguing and classification education has undergone a significant transformation with the advent of MARC, RDA, and digital repositories, such as DSpace and Koha Integrated Library System (Awodoyin & Okiki, 2023). These technologies facilitate students in the efficient creation, editing, and management of metadata, enhance categorisation precision, and reduce the human labour involved in organising knowledge. The use of digital tools among institutions is inconsistent owing to infrastructural constraints, unreliable internet connectivity, and the lack of cataloging software and apps, resulting in the under-utilisation of digital technology in learning processes. Many LIS programs in Nigeria struggle with inadequate funding, unreliable internet access, and a lack of trained instructors proficient in digital cataloguing systems (Ogunbodede & Sawyerr-George, 2023).

The digital age has transformed the field of cataloguing and classification, presenting new challenges and opportunities for learning this concept effectively. According to Hider (2018), the use of digital tools and technologies, such as integrated library systems (ILS), metadata standards, and taxonomy management software, has become essential for cataloguing and classification (Hider, 2018). However, there are challenges affecting the learning of cataloguing and classification, which include the poor attitude of lecturers and students towards cataloguing and classification and inadequate teaching methods (Yusuf, 2015; Azubogu & Made, 2021; Olabode, *et al*, 2023). Similarly, Oladele, Nasifat, and Ibrahim (2023) identified the challenges of learning cataloguing and

classification as; inadequate classification scheme, insufficient open and closed access databases, and lack of adequate knowledge of different application software.

Training and practical exercises are crucial for learning cataloguing and classification in the digital age, and collaborative learning approaches, such as group projects and peer review, can enhance student engagement and learning outcomes, which are often left out in library schools. Several studies have suggested solutions to these, which are balancing curriculum design with theoretical foundations, with practical applications and incorporating real-world examples and case studies (Taylor, 2017; Kumar, 2018). Provide instructors with training and support on digital tools and technologies (Jeng, 2019). Utilise hybrid teaching methods, combining face-to-face and online instruction (Kumar, 2018). Incorporate real-world examples and case studies to illustrate complex concepts (Hider, 2018). Foster collaboration between instructors, librarians, and industry professionals (LITA, 2020).

### **Methodology**

The study adopted a descriptive survey research design, which adopted a purposive sampling technique to sample eight university (4 private, 2 state, and 2 federal) library schools in South-west, Nigeria. The target population constituted 407 final-year students who had completed Organisation of Knowledge I and II courses in the 200 and 300 levels, respectively and had undergone three months of Industrial Training. Data was collected through a questionnaire. Four research questions and two hypotheses guided the study.

The questionnaire served as an instrument for data collection. To assess the face validity and content reliability of the questionnaire, it was vetted by LIS experts. The descriptive statistics were used to analyse the collected data using frequency counts, tables, mean to answer the research questions. In contrast, inferential statistics, Pearson Product-Moment Correlation Coefficient, was used to test null hypothesis 1 and T-test for null hypothesis 2.

### Population of the Study

**Table: 1**

*Final-Year Undergraduate Enrollment in Selected Library Schools in Southwest Nigeria*

S/N

1	Adeleke University, Ede, Osun State	9
2	Ajayi Crowther University, Oyo, Oyo State	10
3	Adekunle Ajasin University, Akungba Akoko, Ondo State	137
4	Babcock University, Ilishan Remo, Ogun State	24
5	Ekiti State University, Ado Ekiti, Ekiti State	40
6	Federal University Oye Ekiti, Ekiti State	94
7	Lead City University, Ibadan, Oyo State	35
8	University of Ibadan, Ibadan, Oyo State	58
	Total	407

### Questionnaire Response Rate

Across the eight library schools, an overall response rate of 59.2% was recorded, with 241 of the 407 administered questionnaires retrieved and used, ranging from a low of 43.8% at Adekunle Ajasin University to a perfect 100% at Ajayi Crowder University.

## Results and Discussion

The distribution of the 241 respondents shows a female majority at 64.3% (155) compared to 35.7% (86) for males.

### Answers to Research Question

**Research Question 1:** What are the resources available in learning organization of knowledge in the digital era in library schools in South West Nigeria?

**Table 3:** Resource Availability in Learning Organisation of Knowledge in the Digital Era in Library Schools

Resources	Available		Not Available		Remark
	Freq.	(%)	Freq.	(%)	
Anglo-American Cataloguing Rules 2	192	79.7	49	20.3	Available
Resource Description and Access	155	64.3	86	35.7	Available
Sears List of Subject Headings	200	83.0	41	17.0	Available
National Library of Medicine Subject Headings	119	49.4	122	50.6	Not Available
Dublin Core Metadata Sets	75	31.1	166	68.9	Not Available
Minnesota Metadata Guidelines	76	31.5	165	68.5	Not Available
Text Encoding Initiative (TEI)	106	44.0	135	56.0	Not Available
Electronic Archive Description (EAD)	111	46.1	130	53.9	Not Available
OPAC	182	75.5	59	24.5	Available
WEBPAC	132	54.8	109	45.2	Available
Library of Congress Subject Headings	202	83.8	39	16.2	Available
Subject Dictionaries	183	75.9	58	24.1	Available
Thesauri	163	67.6	78	32.4	Available
Library of Classification Scheme	196	81.3	45	18.7	Available
Dewey Decimal Classification Scheme	163	67.6	78	32.4	Available
Universal Decimal Classification Scheme	142	58.9	99	41.1	Available
Moys Classification Scheme	109	45.2	132	54.8	Not Available
National Library of Medicine Classification Scheme	133	55.2	108	44.8	Available
Machine Readable Catalogue (MARC)	137	56.8	104	43.2	Available
Online Computer Library Center	182	75.5	59	24.5	Available
National Library Catalogue	148	61.4	93	38.6	Available
Library of Congress Online Catalogue	175	72.6	66	27.4	Available
World Cat	99	41.1	142	58.9	Not Available

Library Thing	120	49.8	121	50.2	Not Available
Cutter Table	179	74.3	62	25.7	Available

**Key:** 1 = *Not Available*, 2 = *Available*

**Decision Value:** 0-49% = *Not Available*, 50-100% = *Available*

Table 3 outlines the availability of knowledge organisation resources in Southwest Nigerian library schools. The Library of Congress Subject Headings (LCSH) recorded the highest availability at 83.8%, followed by the Library of Congress Classification Scheme (LCCS) at 81.3%. Conversely, the National Library of Medicine Classification Scheme was the least available at 55.2%. These results align with Okeji and Mayowa-Adebara (2020), confirming that regional curricula remain heavily centred on traditional tools like AACR2, RDA, and DDC. Furthermore, the data support findings by Salman and Isah (2022) regarding the lack of modern, digital-era resources such as WorldCat and LibraryThing, which are standard in developed nations but remain largely unavailable to these students.

**Research Question 2:** What is the rate of utilisation of resources in learning organisation of knowledge in the digital era in library schools in South-west, Nigeria?

**Table 4:** Utilisation of Resources in Learning Organisation of Knowledge among the Respondents

Items	VHU	HU	MU	NT	Mean	Std. D
Anglo-American Cataloguing Rules 2	91	6 4	50	36	2.87	1.08
Resource Description and Access	67	7 5	56	43	2.68	1.06
Sears List of Subject Headings	84	7 6	42	39	2.85	1.07
National Library of Medicine Subject Headings	65	6 5	53	58	2.57	1.12

Dublin Core Metadata Sets	46	4 7	66	82	2.24	1.11
Minnesota Metadata Guidelines	49	5 7	58	77	2.32	1.12
Text Encoding Initiative (TEI)	45	6 5	55	76	2.33	1.10
Electronic Archive Description (EAD)	61	6 2	53	65	2.49	1.14
OPAC	82	8 0	49	30	2.89	1.01
WEBPAC	44	9 0	56	51	2.53	1.02
Library of Congress Subject Headings	101	7 0	43	27	3.02	1.02
Subject Dictionaries	79	7 7	58	27	2.86	1.00
Thesauri	61	7 1	61	48	2.60	1.07
Library of Classification Scheme	75	8 6	55	25	2.88	.97
Dewey Decimal Classification Scheme	60	8 8	52	41	2.69	1.02
Universal Decimal Classification Scheme	50	8 0	67	44	2.56	1.01
Moys Classification Scheme	46	7 0	60	65	2.40	1.08
National Library of Medicine Classification Scheme	80	5 7	50	54	2.68	1.15
Machine Readable Catalogue (MARC)	73	8 1	42	45	2.76	1.08
Online Computer Library Center	73	8 4	48	36	2.81	1.03

National Library Catalogue	73	7 9	46	43	2.76	1.07
Library of Congress Online Catalogue	80	8 1	50	30	2.88	1.01
World Cat	63	6 0	52	66	2.49	1.15
Library Thing	55	7 0	56	60	2.49	1.09
Cutter Table	83	7 5	40	43	2.82	1.09
<b>Weighted Average</b>					<b>2.66</b>	

**Key;** *VHU* = Very Highly Utilised, *HU* = Highly Utilised, *MU* = Moderately Utilised, *NT* = Not Utilised

**Decision Value for Remark:** *Low* = 0.00-2.49, *High* = 2.50-4.00

Table 2 indicates a high overall utilization of knowledge organization resources in Southwest Nigerian library schools, with a weighted average of 2.66/4.00. Top-rated resources include the Library of Congress Subject Headings ( $\bar{x} = 3.02$ ), AACR2 ( $\bar{x} = 2.87$ ), and RDA ( $\bar{x} = 2.68$ ). Conversely, the Text Encoding Initiative (TEI) recorded the lowest utilization ( $\bar{x} = 2.33$ ). These findings align with Ugwu and Ejikeme (2022), who noted that AACR2 and RDA remain the dominant standards in 85% of regional LIS programs. Furthermore, the results echo Okeji and Mayowa-Adebara (2020) regarding the prevalence of OPAC and WEBPAC systems in both academic libraries and current curricula.

**Research Question 3:** What are the challenges confronting the use of resources in learning organization of knowledge in the digital era in library schools in South West Nigeria?

**Table 5:** Challenges Confronting the Use of Resources in Learning Organization of Knowledge in the Digital Era among the Respondents

Challenges	SA	A	D	SD	Mea n	Std. D	Remark
Lack of cataloguing and classification laboratory	68	73	65	35	2.72	1.02	Accepted
Inadequate cataloguing and classification tools	50	84	84	23	2.66	.91	Accepted
Inadequate time allocated for learning the course on the timetable	62	75	81	23	2.73	.95	Accepted
Inadequate practical to-balance theory learned in class	64	87	60	30	2.76	.98	Accepted
Inadequate textbooks in learning the course	50	69	91	31	2.57	.95	Accepted
Outdated teaching methods	41	73	88	39	2.48	.95	Accepted
There is no online cataloging and classification exercise	64	72	72	33	2.69	1.01	Accepted
There is no computer laboratory in our department	46	52	101	42	2.42	.98	Not Accepted
Cataloguing and classification are difficult courses	48	63	86	44	2.47	1.00	Accepted
My negative perception concerning the courses	36	58	89	58	2.29	.99	Not Accepted
Epileptic power supply in the department.	62	86	62	31	2.74	.98	Accepted
There are no Internet facilities for	57	83	70	31	2.68	.97	Accepted

online

d

**Key; SA** = Strongly Agree, **A** = Agree, **D** = Disagree, **SD** = Strongly Disagree

**Decision Value for Remark: Not Accepted** = 0.00-2.49, **Accepted** = 2.50-4.00

Table 5 identifies key challenges in utilizing knowledge organization resources within Southwest Nigerian library schools. The primary obstacles are inadequate practical sessions to balance theoretical learning and epileptic power supply. These results align with Sahabi and Otobo (2022), who noted a widespread lack of technological infrastructure in Nigerian LIS institutions. Additionally, Okeji and Mayowa-Adebara (2020) highlight a significant skills gap: many educators, trained primarily in traditional systems (AACR2, LCSH, DDC), struggle to teach modern metadata standards like RDF, XML, and Dublin Core, thereby limiting students' digital competency.

**Research Question 4:** What are the suggested solutions to the challenges confronting the use of resources in learning organization of knowledge in the digital era in library schools in South West Nigeria?

**Table 6:** Suggested Solutions on the Challenges Confronting the Use of Resources in Learning Organization of Knowledge in the Digital Era among the Respondents

Solutions	SA	A	D	SD	Mean	Std. D	Remark
Our library school should provide a well-equipped cataloguing and classification laboratory.	14 4	91	2	4	3.55	.60	Accepted
Adequate cataloguing and classification tools should be provided by the library school.	12 7	97	12	5	3.43	.68	Accepted

The library school should allocate adequate time for learning the course.	12 4	10 3	11	3	3.44	.64	Accepted
Adequate practicals should be provided to balance the theories learned in class.	12 7	97	9	8	3.42	.72	Accepted
Lecturers should write textbooks for learning the courses.	93	10 6	26	16	3.14	.86	Accepted
Modern teaching methods should be employed in teaching the courses.	11 5	11 1	9	6	3.39	.68	Accepted
Online assignments and exercises in cataloguing and classification should be assigned to students	10 8	10 5	20	8	3.29	.75	Accepted
Well-equipped computer laboratory should be provided by the department for learning the courses.	10 9	11 1	16	5	3.34	.69	Accepted
Cataloguing and classification should be taught step-by-step by lecturers to encourage the students to like the courses.	12 5	94	16	6	3.40	.72	Accepted
Students should develop positive perceptions of the courses.	10 6	11 9	10	6	3.34	.67	Accepted
There should be provision for alternative sources of power.	10 9	10 9	19	4	3.34	.69	Accepted
There should be a provision of the Internet for online practicals.	11 6	11 1	10	4	3.40	.65	Accepted

**Key; SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree**

**Decision Value for Remark: Not Accepted = 0.00-2.49, Accepted = 2.50-4.00**

Table 6 shows the challenges confronting the use of resources in the learning organisation of knowledge in the digital era among the respondents. Provision of modern laboratories with cataloging software, investing in alternative power sources, and providing digital libraries with Uninterrupted Power Supply (UPS) systems to support

continuous learning align with those proffered by Clarke, Amonkar, & Rosenblad; Do, Dorner, and Calvert 2019); Okeji & Mayowa-Adebara; Perryman & Jeng, 2020) as solution to the challenges confronting the use of resources in the learning organisation of knowledge in the digital

### 4.3 Hypothesis Testing

**HO<sub>1</sub>** There is no significant difference in the rate of utilisation of resources in learning organisation of knowledge in the digital era in library schools based on gender.

**Table 8:** Summary of T-test Showing Difference in Male and Female Students' Utilisation of Resources in Learning Organisation of Knowledge

Grouping Variable (Gender)	N	Mean	Std. D	Df	T	Sig.	Remark
Male	86	66.76	17.42	239	.188	.851	Not Significant
Female	155	66.32	16.93				

Table 8 indicates that gender does not significantly impact the utilization of knowledge organization resources. The mean score for males (66.76) and females (66.32) showed no appreciable difference. Statistical analysis (\$df = 239; t = .188; p > 0.05\$) confirms that there is no significant difference based on gender; therefore, Hypothesis 2 is accepted. This aligns with Firsmanyah et al. (2022), whose research demonstrated that male and female students utilize these resources equally when provided with equivalent access to digital tools.

### Recommendations

1. Library schools in South-west, Nigeria should allocate more financial resources to acquire and integrate modern cataloguing tools such as RDA, BIBFRAME, and metadata management systems.
2. The management of library schools should organise regular training programmes and workshops to equip Library and Information Science (LIS) educators with the skills necessary for teaching digital cataloguing tools effectively.
3. The management of library schools should facilitate partnerships between library associations and industry stakeholders to provide internship placements, hands-on training, and exposure to modern cataloguing practices for LIS students.
4. The management of library schools should ensure that LIS curricula are periodically revised to emphasise digital cataloging technologies and align with global best practices for students.
5. Universities should enhance ICT laboratories and ensure they are well-equipped with essential digital cataloging tools to support hands-on learning.
6. The management of library schools should ensure that cataloguing laboratories are strategically located to improve accessibility for both faculty and students.
7. Regulatory bodies should enforce policies that mandate the integration of digital knowledge organization tools into LIS education to bridge the gap between traditional and digital cataloging methods.

## **Conclusion**

The study reveals that although traditional cataloguing techniques still predominate in South-west, Nigerian LIS education, inadequate infrastructure, a lack of funding, and a lack of teacher training continue to limit the use of digital technologies. Cataloguing laboratories are the main location where tools for organising knowledge are kept, which provide practical learning opportunities. However, accessibility issues still hinder their effective utilisation. The findings highlight a critical need for LIS schools to enhance their digital cataloging capabilities to align with global trends. Addressing these challenges is essential to equip future library professionals with the necessary skills to navigate the evolving digital information landscape.

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