

ASSESSING THE COMPREHENSIVENESS OF LIS-CORE CURRICULUM OF MINIMUM ACADEMIC STANDARDS (CCMAS): PERSPECTIVE OF KANO-BASED LIBRARY AND INFORMATION SCIENCE EDUCATORS

By

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Abstract

The Core Curriculum of Minimum Academic Standards (CCMAS) established by the National Universities Commission (NUC) provides the foundational guideline for Library and Information Science (LIS) education in Nigerian universities. Given the rapidly evolving, technology-driven nature of the LIS profession, it is essential to assess the curriculum's capacity to address contemporary professional demands. This study examined the comprehensiveness of the LIS-CCMAS from the perspective of LIS educators in Kano State, Nigeria. The objectives were to ascertain educators' views on the curriculum's coverage, evaluate its inclusion of emerging trends, and identify challenges affecting its implementation. A descriptive survey design was adopted, targeting 57 LIS educators across three universities. A sample of 48 respondents was determined using Krejcie and Morgan's table and selected through stratified random sampling. Data were collected using a self-developed questionnaire, with reliability confirmed through a Cronbach's alpha coefficient of 0.859, and analyzed using descriptive statistics. Findings indicate that the curriculum is moderately comprehensive but insufficient in addressing emerging technological developments such as artificial intelligence, big data analytics, and digital innovation. Furthermore, the curriculum was found to inadequately foster creativity and entrepreneurial skills. Limited staffing and inadequate teaching facilities were also identified as barriers to achieving curriculum objectives. The study concludes that although the LIS-CCMAS represents progress in standardizing LIS education in Nigeria, it requires periodic review and enhancement to ensure relevance to global trends. It recommends continuous curriculum improvement through collaboration between the NUC, professional bodies, and academic institutions.

Keywords: Comprehensiveness; Core Curriculum of Minimum Academic Standards (CCMAS); Library and Information Science Educators; Nigeria

Introduction

The curriculum is the bedrock of any educational system. It is an official document that spells out learning objectives and outcomes and suggests appropriate methodologies and tools to be used by instructors in achieving these objectives. Yusuf and Aslan (2021) defined the curriculum as a written document containing designed strategies for achieving the aims and objectives of education. A well-designed curriculum pinpoints the conceptual and practical skills required of a programme graduate to be competent enough to discharge professional and job-related tasks. It highlights the scope and instructional materials required for effective teaching and learning of a particular topic or concept.

The effectiveness of a curriculum relies largely on its comprehensiveness—the extent to which it adequately covers topics, skills, and knowledge relevant to the field of study. A comprehensive curriculum covers all relevant topics, concepts, and skills required to fully understand the subject domain; includes both theoretical and practical components; reflects current trends in the field; incorporates diverse approaches and methodologies; caters for cognitive knowledge, psychomotor skills, and values required of graduates; and aligns with professional standards and job-related competencies (Goh, Owyong, Seetoh, Hu, Ching, & Li, 2021). In contrast, a curriculum that leaves gaps in

learners' knowledge through the omission of essential topics or skills and fails to prepare learners for job-related challenges is considered narrow and ineffective.

Recently, the Nigerian National Universities Commission (NUC) developed the Core Curriculum and Minimum Academic Standards (CCMAS) for Nigerian universities. This initiative represents an improvement on the Benchmark of Minimum Academic Standards (BMAS), which had been in use for decades. The CCMAS is aimed at equipping Nigerian graduates with both theoretical and practical knowledge in their respective fields of specialization (NUC, 2023). Unlike the BMAS, the development of the CCMAS was not centralized: 70% of its content was provided by the NUC, while individual universities are permitted to develop the remaining 30% based on their peculiarities.

Library and Information Science (LIS), one of the academic programmes offered in Nigerian universities, was not left behind in this development. The CCMAS for LIS is designed to produce graduates with the requisite knowledge, skills, competencies, and abilities to work effectively in modern libraries and information centres and to respond to the ever-changing needs of information users.

Statement of Problem

A comprehensive curriculum is essential for equipping graduates with the necessary skills, competencies, and knowledge required to meet the ever-changing demands of their professions and jobs. Despite the importance of a comprehensive curriculum, there is

growing concern among library and information professionals about the comprehensiveness of the Nigerian LIS curriculum and the extent to which it incorporates global trends in information and communication technologies (ICTs) and entrepreneurial skills required for graduates to become self-employed.

With the development of the Core Curriculum and Minimum Academic Standards (CCMAS) for Nigerian universities, there is a dearth of empirical evidence on the perceptions of LIS educators regarding the level of comprehensiveness of the new curriculum. LIS educators are in the best position to examine and shape the new curriculum through their contributions of thirty percent (30%) to its content. However, their perceptions of the comprehensiveness of the new curriculum have not yet been adequately explored. In view of this, the present study is designed to explore LIS educators' perceptions of the comprehensiveness of the LIS CCMAS, with a view to identifying the extent to which global trends in ICTs and entrepreneurship-related skills and practices are included.

Research Questions

The study is set to find answers to the following questions:

1. What is the level of comprehensiveness of the new Library and Information Science (LIS) Core Curriculum and Minimum Academic Standards (CCMAS)?
2. To what extent does the curriculum under study address emerging trends in LIS?

3. To what extent do the contents of the curriculum under study cover entrepreneurship-related areas?
4. In what ways can the stated objectives of the curriculum be realized under the present conditions of Nigerian LIS schools?
5. What are the shortcomings of the new curriculum?

Literature Review

Concept of Curriculum

The concept of curriculum has attracted diverse definitions and interpretations in educational theory and practice. Traditionally, the curriculum was conceived as a formal plan that outlines the learning experiences and knowledge to be transmitted to students (Tyler, 1949). This view emphasized the curriculum as a systematic process involving the identification of objectives, selection of learning experiences, organization of content, and evaluation of outcomes. Stenhouse (1975), however, argued that the curriculum should not be seen as a static document but rather as a research and development activity. This perspective underscores the curriculum as an evolving and dynamic construct.

More recent perspectives, such as that of Biggs and Tang (2011), define the curriculum as an integrated system in which learning outcomes, teaching and learning activities, and assessment tasks are carefully aligned. In a more authoritative sense, UNESCO (2022) defines the curriculum as a structured series of planned instructions

designed to equip learners with the cognitive knowledge, skills, and attitudes required to carry out future duties and live successfully in society. The curriculum encompasses intended interactions between learners and instructional materials, teaching methodologies, and the skills required of graduates. It also provides detailed explanations of step-by-step approaches to independent learning and the stages involved in implementing self-directed learning in the classroom (Mulyadi & Mardiana, 2022).

In the Nigerian higher education context, the curriculum is operationalized through national regulatory frameworks. The National Universities Commission (NUC) developed the Benchmark Minimum Academic Standards (BMAS), which was later revised into the Core Curriculum and Minimum Academic Standards (CCMAS) in 2023, to define baseline content and learning outcomes for university programmes (NUC, 2023a). The CCMAS framework stipulates 70% national minimum content, with the remaining 30% allocated to institutional innovation, thereby ensuring uniformity while allowing contextual flexibility (NUC, 2023b).

Comprehensiveness of curriculum

Literally, the term comprehensive refers to detail or the inclusion of all necessary parts. The comprehensiveness of a curriculum relates to its breadth, depth, coherence, and alignment. It is not merely a matter of content volume, but of how well the curriculum provides holistic coverage of disciplinary knowledge, critical skills, and transferable

competencies. International comparative studies, such as the Trends in International Mathematics and Science Study (TIMSS), as cited in Schmidt, McKnight, and Raizen (2001), revealed that a curriculum is perceived as comprehensive when it demonstrates coherence and focus rather than mere expansiveness.

Comprehensive curricula integrate breadth (coverage of diverse knowledge areas) with depth (in-depth exploration of core concepts), thereby fostering intellectual rigour and the transferability of learning. Biggs (2003) argued that comprehensiveness requires alignment, such that learning outcomes, pedagogy, and assessment work in synergy to ensure that students demonstrate mastery of core competencies. Thus, comprehensiveness is not achieved solely through the quantity of topics covered, but through the integration of knowledge, skills, and values that contribute to holistic student development.

A comprehensive curriculum, therefore, is one that covers all relevant topics required to prepare learners for professional or job-related challenges. Dahiru (2022) suggested that the LIS curriculum should include courses in the history of libraries, information literacy, library resources and services, ICTs in libraries, collection development, library application software packages, organization of knowledge, information retrieval, library management, technical services in libraries, and multimedia applications in library and information centres.

In the Nigerian context, the CCMAS attempts to achieve comprehensiveness by balancing national standards with institutional autonomy. The 70% core content ensures consistency across universities, while the 30% institutional input provides room for contextualized and innovative additions (NUC, 2023b). Nonetheless, early scholarly commentaries suggest ongoing debates about whether the CCMAS adequately captures contemporary disciplinary needs and whether universities have sufficient resources and autonomy to enrich the remaining 30% (Omeje et al., 2023; Usman, 2023).

Inclusiveness of Emerging Technologies in LIS Curriculum

Considering the importance of emerging technologies in shaping library operations, students of Library and Information Science (LIS) need to be fully aware of these technologies and how to apply them in professional practice. Dahiru (2022) affirmed that the LIS curriculum needs to be reinvigorated with emerging information technologies. Thus, the content of the LIS curriculum should incorporate relevant emerging technologies within the discipline, with a view to equipping graduates with the necessary skills and competencies required to effectively utilize these technologies in their professional practice.

Recently, many libraries have incorporated emerging technologies such as artificial intelligence (AI), blockchain, advanced robotics, virtual reality, the Internet of Things (IoT), big data, 5G, drones, and mobile applications to redefine conventional library services

(Chingath, 2020; Mbunge, Akinnuvesi, Fashoto, Metfula, & Mashwana, 2021; Mikhwan, 2024). While AI has simplified library services such as cataloguing and metadata production, IoT has streamlined inventory management and resource tracking. Blockchain technology, on the other hand, has enhanced digital rights management, data privacy, and collaborative processes. As a result of these developments, libraries are being transformed into user-friendly centres for learning, creativity, and community engagement (Meesad & Mingkhwan, 2024).

Coverage of LIS related Entrepreneurship skills in Curriculum

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Perceptions and Implementation in the Nigerian Context

Emerging research on the CCMAS suggests mixed perceptions among academics; some believe that modernizing curricula and incorporating 21st-century skills are closely related to the level of comprehensiveness, workability, and adequacy in capturing discipline-specific realities (Omeje et al., 2023; Usman, 2023). Studies in fields such as Business Education report implementation challenges related to staff capacity, pedagogy, and resource availability (Ezeani & Ogbonna, 2024). These practical limitations affect both the comprehensiveness of the curriculum and the attainment of its objectives.

Perceptions of comprehensiveness are thus shaped not only by curriculum design but also by institutional readiness, academic autonomy, and the broader socio-political context. For academics at Northwest University, evaluating the CCMAS may involve considering how well the national curriculum captures essential disciplinary knowledge,

allows room for institutional innovation, and supports the actual attainment of intended learning outcomes.

Methodology

The study adopted a descriptive survey design. The population comprised 45 full-time Library and Information Science (LIS) educators from three library schools in Kano, Nigeria. The Krejcie and Morgan (1970) sampling table was used to determine a sample size of 40 educators, who served as the study participants. A stratified random sampling technique was employed to distribute the sample among the three library schools as follows: 12 educators from Northwest University, Kano; 6 from Aliko Dangote University of Science and Technology (ADUSTech); and 22 from Bayero University, Kano (BUK), as presented in Table 3.1.

A self-designed questionnaire served as the instrument for data collection. The face and content validity of the questionnaire were reviewed and confirmed by two professors from the Department of Library and Information Science, Ahmadu Bello University (ABU), Zaria. A pre-test of the instrument was conducted at ABU, Zaria, to determine its reliability. Cronbach's alpha coefficient was calculated using SPSS to assess the instrument's internal consistency, yielding a reliability coefficient of 0.859, which was considered acceptable (Tavakol & Dennick, 2011). Data collected were analyzed using descriptive statistics.

Table 1: Population and sample size of the study

University	Population	Sample size
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Bayero University, Kano	25	22
Northwest University, Kano	12	11
Aliko Dangote University of Science and Technology, Wudil	8	7
Total	45	40

Source: universities' portals and field work

Results

This section presents the results of the data collected, analyzed, and interpreted in line with the objectives of the study. Out of the 40 copies of the questionnaire distributed to respondents, 35 (85%) were duly completed and returned, representing a high response rate. The retrieved questionnaires were analyzed and presented according to the research objectives, as shown in Tables 4.1 to 4.6. The data presented in each table are further explained and discussed in the subsequent sections to provide a clearer understanding of the findings.

Table 2: Demographic Characteristics of the Respondents

Distribution of Respondents by Universities			
S/N	University	Frequency	Percentage
1	Bayero University, Kano	18	52.94
2	Northwest University, Kano	11	32.35
3	Aliko Dangote University of Science and Technology, Wudil	5	14.71
Total		34	100
Distribution of Respondents by Gender			
S/N	Gender	Frequency	Percentage
1	Male	16	47.06
2	Female	18	52.94
Total		34	100
Distribution of Respondents by Qualifications			
S/N	Qualification	Frequency	Percentage
1	BLIS	3	8.82
2	MLIS	17	50.00
3	PhD	14	41.18
Total		34	100
Distribution of Respondents by Designation			
S/N	Designation	Frequency	Percentage
1	Graduate Assistant	3	8.82

2	Assistant Lecturer	3	8.82
3	Lecturer II	6	17.65
4	Lecturer I	8	23.54
5	Senior Lecturer	4	11.76
6	Associate Professor	3	8.82
7	Professor	7	20.59
Total		34	100
Distribution of Respondents by Working Experience			
S/N	Length of service	Frequency	%
1	Below 6 years	6	17.65
2	6-10 years	12	35.30
3	11-15 years	7	20.59
4	16-20 years	2	5.88
5	21-25 years	4	11.76
6	26-30 years	2	5.88
7	Above - 30 years	1	2.94
Total		34	100

Source: field work

The results indicate that the highest proportion of respondents (52.94%) were drawn from Bayero University, Kano, followed by Northwest University, Kano (32.35%), and Aliko Dangote University of Science and Technology, Wudil (14.71%). The gender distribution shows a slightly higher number of female respondents (52.94%) compared to males (47.06%). In terms of academic qualifications, half of the respondents held a Master's degree in Library and Information Science, while 41.18% possessed a PhD, demonstrating a highly qualified academic workforce in the sampled institutions.

Regarding academic rank, the participants were fairly distributed across different positions, with Lecturer I (23.54%) and Professors (20.59%) constituting the largest groups, followed by Lecturer II and Senior Lecturers. Most respondents (35.30%) had between 6–10 years of experience, indicating a predominance of mid-career academics

with considerable professional exposure. Overall, the sample comprised experienced and well-qualified educators capable of providing credible input to the study.

Research Question 1: What is the level of comprehensiveness of the new LIS-Core Curriculum of Minimum Academic Standards (CCMAS)?

Table 3: Perception of LIS Educators on the Comprehensiveness of LIS-CCMAS

S/N	Statements	4	3	2	1	M	SD
1	The curriculum covers all essential courses for the LIS programme.	7	12	12	4	2.63	0.93
2	The curriculum is coherent and well-structured.	13	9	8	4	2.91	1.04
3	The curriculum covers diverse knowledge areas in LIS.	19	14	2	0	3.49	0.60
4	The curriculum integrates knowledge, skills, and values needed for the holistic training of LIS graduates.	6	7	16	6	2.37	0.96
5	The curriculum covers relevant topics that prepare LIS graduates for professional and job-related challenges.	19	6	7	1	3.30	0.90
Average mean						2.94	

Source: field work

Decision rule: 3.50-4.00 = highly comprehensive; 2.50-3.49 = moderately

comprehensive; 1.50-2.49 = partially comprehensive; 1.00-1.49 not comprehensive

Table 3 indicates that respondents generally perceived the LIS-CCMAS as moderately comprehensive (Average Mean = 2.94). The highest mean score was recorded for the view that the curriculum covers diverse knowledge areas in Library and Information Science (M = 3.49, SD = 0.60), suggesting strong agreement that it includes key domains relevant to the field. Respondents also agreed that the curriculum addresses topics necessary for preparing graduates for professional and job-related demands (M = 3.30, SD = 0.90). Additionally, the curriculum was considered reasonably coherent and well-structured (M = 2.91, SD = 1.04), though with moderate variation in responses.

However, the lowest mean score ($M = 2.37$, $SD = 0.96$) was associated with the statement on whether the curriculum integrates knowledge, skills, and values needed for holistic LIS training. This suggests that respondents were less confident about the curriculum's ability to foster a balanced and comprehensive development of competencies among LIS graduates. Overall, while the curriculum is viewed as covering essential knowledge areas and professional demands, concerns remain regarding its integration of holistic training elements.

Research Question 2: To what extent does the curriculum understudy address emerging trends in LIS?

Table 4: Extent to Which the LIS-CCMAS Curriculum Addresses Emerging Trends

S/N	Statements	4	3	2	1	M	SD
1	The curriculum includes content on Artificial Intelligence (AI) in relation to library and information services.	7	11	8	9	2.46	1.08
2	The curriculum addresses the Internet of Things (IoT) and its application in library and information work.	2	8	8	17	1.86	0.96
3	The curriculum covers Big Data technologies and their applications in LIS.	2	6	9	18	1.77	0.93
4	The curriculum incorporates Blockchain technology and its use in library and information centres.	3	7	11	14	1.97	0.97
5	The curriculum includes content on Virtual Reality applications in LIS.	0	5	22	8	1.91	0.60
Average mean						1.99	

Source: field work

Decision rule: 3.50-4.00 = adequately included; 2.50-3.49 = moderately included; 1.50-2.49 = partially included; 1.00-1.49 not included

Table 4 shows that respondents generally felt the LIS-CCMAS does not sufficiently address emerging trends, as reflected by the overall mean score of 1.99. While there was

some agreement that the curriculum includes content on Artificial Intelligence ($M = 2.46$, $SD = 1.08$), respondents largely disagreed that it covers Big Data technologies ($M = 1.86$, $SD = 0.96$). The relatively high standard deviations indicate considerable variation in perceptions regarding the curriculum's coverage of emerging technological areas.

Research Question 3: To what extent do the contents of the curriculum understudy cover entrepreneurship related areas?

Table 5: Extent to Which the LIS-CCMAS Curriculum Covers Entrepreneurship-Related Areas

S/N	Statements	4	3	2	1	M	SD
1	There are a reasonable number of entrepreneurship courses in the curriculum.	22	11	2	0	3.57	0.60
2	The entrepreneurship courses equip LIS graduates with skills and competencies to start LIS-related businesses after graduation.	8	15	7	5	2.74	0.97
3	The content of some courses promotes creativity among LIS graduates.	1	10	15	9	2.09	0.81
4	Some non-entrepreneurship courses are designed to develop technical skills that enhance self-reliance after graduation.	9	13	8	5	2.74	1.00
5	Courses on publishing, book trade, software design, information consultancy, and computer maintenance are included in the new curriculum.	7	12	8	8	2.51	1.05
Average Mean						2.73	

Source: field work

Decision rule: 3.50-4.00 = adequately covered; 2.50-3.49 = moderately covered; 1.50-2.49 = partially covered; 1.00-1.49 not covered

Table 5 results show a moderate level of entrepreneurship content in the LIS-CCMAS, with an overall mean of 2.73. Respondents strongly agreed that the curriculum includes a reasonable number of entrepreneurship courses ($M = 3.57$), and moderately agreed that

both entrepreneurship and selected non-entrepreneurship courses help develop skills for LIS-related business ventures and self-reliance (M = 2.74 each).

However, lower mean scores were recorded for statements on creativity development (M = 2.09) and inclusion of courses such as publishing, book trade, information consultancy, software design, and computer maintenance (M = 2.51). This indicates neutral to slightly negative perceptions regarding the curriculum's support for creativity and entrepreneurial self-sufficiency.

Research Question 4: To what extent can the laid down objectives in the curriculum be realized in present situation of Nigerian LIS schools?

Table 6: Extent to Which the Objectives of the Curriculum are Attainable

S/N	Statements	4	3	2	1	M	SD
1	The current staffing and training programmes are adequate for implementing the CCMAS.	0	4	13	18	1.60	0.68
2	Adequate teaching facilities have been provided for implementing the new curriculum.	2	6	19	8	2.06	0.79
3	The implementation of the new curriculum in my university is hitch-free.	7	9	14	5	2.51	0.97
4	The goals of the new curriculum have been largely achieved.	9	10	11	2	2.81	0.92
5	Student performance outcomes have improved since implementing the new curriculum.	14	12	5	4	3.03	1.00
Average Mean						2.40	

Source: field work

Decision rule: 3.50-4.00 = highly attainable; 2.50-3.49 = moderately attainable; 1.50-2.49 = partially attainable; 1.00-1.49 not attainable

Table 6 indicates that respondents felt the curriculum objectives are only partially achieved, with an overall mean of 2.40. The highest agreement was that student

performance has improved since the curriculum’s implementation (M = 3.03), though responses varied widely. Moderate agreement was also observed regarding hitch-free implementation and the achievement of curriculum goals, suggesting some progress but ongoing challenges.

However, respondents largely disagreed that staffing and training are adequate for effective implementation (M = 1.60) and also expressed concerns about the sufficiency of teaching facilities (M = 2.06). These findings highlight resource and capacity gaps that may hinder full realization of the curriculum’s objectives.

RQ5: What are the shortcomings of the new curriculum?

Table 7: Shortcomings of the LIS-CCMAS

S/N	Statements	Frequency Agree	Percentage Agree	Frequency Disagree	Percentage Disagree
1	The courses are not properly organized.	20	57.14	15	42.86
2	The objectives of some courses are unrealistic.	17	48.57	18	51.43
3	The curriculum contains repetitive contents.	11	31.43	24	68.57
4	The curriculum lacks practical-oriented courses.	21	60.00	14	40.00
5	The curriculum is teacher-centred rather than learner-centred.	15	42.86	20	57.14

Source: field work

Table 7 shows that most respondents (60%) believed the LIS-CCMAS lacks practical-oriented courses, emphasizing the need for more hands-on learning. Over half (57.14%) also felt the courses are not well-organized, while nearly half (48.57%) viewed the

curriculum as unrealistic, and 42.86% perceived it as teacher-centred. Only a minority (31.43%) agreed that the curriculum contains repetitive content.

Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance the effectiveness and relevance of the LIS-CCMAS:

1. The National Universities Commission (NUC), in collaboration with LIS professional bodies and academic institutions, should institute regular curriculum reviews. Such reviews should integrate cutting-edge trends in the information field, including artificial intelligence, robotics, big data analytics, virtual reality, and the Internet of Things, to ensure global competitiveness.
2. LIS departments in Nigerian universities should incorporate more hands-on, practice-based courses, laboratory sessions, and fieldwork activities. Partnerships with libraries, archives, information centres, and tech-driven organizations should be explored to provide real-world learning opportunities.
3. The curriculum should expand entrepreneurship-related content and include creativity-enhancing modules such as innovation labs, design thinking, and start-up development programmes. This will foster self-employment and innovation among LIS graduates.

4. Curriculum developers should review and streamline course structures to eliminate overlap, improve course sequencing, and ensure logical flow. Clearer course descriptions and standardized syllabi should be developed to support uniform implementation across universities.
5. University management should recruit qualified LIS educators and continually support staff development through workshops, training programmes, and scholarships in emerging areas of information science and technology.
6. Federal and state governments, alongside university authorities, should invest in modern teaching facilities such as digital libraries, computer laboratories, internet connectivity, and LIS technology tools to support effective learning and practical engagement.

Conclusion

Although the LIS-CCMAS represents a commendable step toward standardizing LIS education in Nigeria, there is a pressing need for periodic review and enhancement to integrate emerging technologies, strengthen entrepreneurial and creative components, and improve practical training. Additionally, Nigerian universities must prioritize investment in human and material resources to ensure that the curriculum can be implemented effectively and its objectives fully realized. Strengthening these areas will better position LIS graduates to thrive in contemporary and future information landscapes.

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