



ASSESSMENT OF THE AWARENESS AND AVAILABILITY OF ACADEMIC LEARNING MANAGEMENT SYSTEM IN FEDERAL COLLEGES OF EDUCATION IN NORTH WEST ZONE, NIGERIA

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Abstract

This study assessed the Awareness and Availability of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria. The study had two objectives. In line with the objectives, two research questions and two hypotheses were formulated and tested. The study adopted survey research design with population of 5,995 (five thousand, nine hundred and ninety-five) respondents which comprised 3,625 (three thousand six hundred and twenty-five) lecturers, and 2,370 (two thousand three hundred and seventy) senior. A sample size of three hundred and sixty-five (365) participants, consisting of two hundred and twenty one lecturers (221) and one hundred and forty-four (144) senior management staff were used in the study. Data was collected through a self-structured questionnaire tagged "Awareness and Availability of Academic Learning Management System Questionnaire (AAALMSQ)". The result of the pilot study conducted showed a reliability value of 0.82. Data collected in the study was analysed using descriptive statistics while Chi-square statistical method was used to test the null hypotheses at 0.05 level of significance. The findings of the study revealed that there is high level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria. On the test of hypothesis, significant difference was observed in the response of the participants ($p\text{-value } .000 < 0.05$ alpha level). In the opinions of senior management staff and lecturers on the availability of Academic Learning Management System Infrastructure is very low in Federal Colleges of Education in North West Zone, Nigeria. On the test of hypothesis, no significant difference was observed in the response of the participants ($p\text{-value } .206 > 0.05$ alpha level). Based on the findings of the study, it was recommended among others that: Colleges of Education staff across board should be trained on the effective use and application of Academic Learning Management System tools in consonance with the goals and objectives of the education system through strategic adherence to innovation. Academic Learning Management System infrastructure should be established and promoted by the institution's senior management. This should start at the top of the organization and be replicated all the way down the management chain.

Keywords: Awareness, Availability, Learning Management System, Colleges of Education, etc.

Introduction

Technology has changed society in the 21st century as much as the industrial revolution changed society in the eighteenth and nineteenth centuries. The evolution of education has been significantly influenced by technological advancements, leading to the rise of online and remote learning as transformative modalities. The history of online and remote learning dates back over a century, with correspondence courses and radio broadcasts playing a role in the 20th century (Olan et al., 2022).



Technological advancements such as internet connectivity, multimedia content, digital devices, Learning Management Systems (LMS), and Artificial Intelligence (AI) have driven the shift, making learning more accessible to millions worldwide (Olan et al., 2022).

Higher institutions around the world have increasingly adopted technology and the internet as tools for teaching, curriculum development, staff development, and student learning (Usluel et al., 2008). They are extensively using technology and the internet to develop alternative options for delivering courses to students, a task that entails guaranteeing the effective use of technologies in facilitating communication and activities that support education (Alkhalaf et al., 2012). Employing such innovations ensures that the learning process continues to move forward, regardless of where or when it occurs. Given that the internet is an excellent information source, educators can use specific web-based applications, such as academic learning management systems (ALMS), as teaching resources.

These applications, which are often termed e-learning platforms, enable lecturers to provide students with different materials and to interact with them in real time even when they are not located in the same physical space. This platform also allows lecturers to track the evolution of the learning process and monitor student performance on specific tasks (Martín-Blas & Serrano-Fernández, 2009). In recent years, education institutions around the world have become increasingly interested in digital learning to meet the growing student population, provide a broad and fast information base, and open up other areas of communication between students and teachers and among students themselves, on the other hand, through the use of technology (Khaddash & Al-Hadhrami, 2006).

The integration of technology into teaching and learning has been the focus of 21st century innovative education. Specifically, the application of computer technology in classroom environment continues to play a vital role in enhancing teaching and enriching learning (Falode, 2018). Through the emergence and use of Academic Learning Management Systems (ALMSs) in schools for instance, teaching and instructional delivery is being shifted from traditional to technology-enhanced method. Academic learning management system is web-based tools for conducting quality online teaching and training. They are platforms for user management in their interaction with educational content that is created and presented in a suitable format (Angelova et al., 2015).

Academic learning management systems are software applications meant for the administration, documentation, tracking, reporting and delivery of educational contents. They help teachers deliver instructional content to students, and also help to administer tests and assignments, track student progress, and manage the classroom situation. Prabha and Sanjeev (2015) stated that ALMSs help to deliver and manage instructional contents to students, help to adequately handle students' registration, course registration and other personal details of the students for administrative purpose, help to track students' academic progress and reports of student work and also provide performance management systems which encompass learners' appraisals, competency-based learning management, and multi-rater assessments.

Education being a cornerstone for societal developments provides the foundation for individual growth and collective progress. In Nigeria, Colleges of Education play a pivotal role in shaping the future of the nation by preparing educators who, in turn, mould the minds of the next generation. As the world undergoes rapid technological advancements, the integration of educational technology becomes imperative for fostering effective teaching and learning environments. One significant aspect of this integration is the utilization of Academic Learning Management Systems (ALMS) in educational institutions.

Nigerian education system has faced challenges ranging from inadequate infrastructure to outdated teaching methods. The need for transformative measures is underscored by the fast-paced evolution of global educational paradigms. ALMS, a technological platform designed to facilitate the management of educational processes, presents a promising avenue for addressing some of these challenges. These systems encompass a variety of tools and resources, including online courses, content management, and assessment modules, which collectively aim to enhance the overall educational experience (Zieber, 2019; Abdullateef et al., 2016).



In the same vein, Dube and Scott (2014) posits that the introduction of ALMS holds the potential to revolutionize education in Colleges of Education in Nigeria. By seamlessly integrating technology into pedagogical practices, these institutions can offer a more dynamic and engaging learning experience for both educators and students. However, the successful implementation of ALMS relies heavily on the awareness and willingness of stakeholders to embrace and utilize these systems effectively. Nigeria, with its diverse cultural and linguistic landscape, faces unique challenges in providing quality education to its populace. There has been a higher demand for skilled and competent educators, and Colleges of Education bear the responsibility of meeting this demand. However, systemic issues such as limited resources, overcrowded classrooms, and outdated curricula have hindered the sector's ability to deliver education that meets global standards.

The integration of technology in education is seen as a transformative solution to these challenges. ALMS, in particular, offers a comprehensive platform for managing various aspects of the educational process. From course planning and content delivery to assessment and feedback, ALMS has the potential to streamline administrative tasks and enhance the overall quality of education. ALMS are designed to encompass not only the management of learning materials but also the integration of interactive and collaborative tools that enrich the teaching and learning experience. Features such as discussion forums, virtual classrooms, and real-time assessment modules contribute to a holistic learning environment that transcends traditional classroom boundaries. Despite the potential benefits of ALMS, there is a critical gap in understanding the awareness and utilization of these systems in Colleges of Education in Nigeria. This study seeks to bridge the existing gap in knowledge by comprehensively assessing the awareness and utilization of ALMS in the Nigerian educational system especially in the North West Zone.

Statement of the Problem

Colleges of Education in Nigeria seem not to have seamlessly integrated Academic Learning Management Systems (ALMS) to enhance teaching and learning. ALMS, in its optimal utilization, offers a dynamic platform for collaborative learning, efficient course management, and objective assessment. However, the current situation presents a stark contrast. Despite the global momentum toward digital education, there exists a significant gap in the awareness, availability, and utilization of ALMS in Nigerian Colleges of Education especially in the North West Zone, Nigeria.

Similarly, Ajemba et al. (2021) stated that the quality of education a student receives largely depends on the availability of quality digital learning resources provided, thus, in the recent times, students learn fast when digital tools are incorporated in the implementation of the teaching. The availability and utilization of ALMS are crucial in today's teacher education (Matazu as cited in Matazu, 2022). Over time, measures have been initiated to address this issue, including national policies advocating for technology integration in education. However, the persistence of the problem suggests that these efforts have not translated into widespread awareness, utilization and adoption at the grassroots level. The challenge according to Yamani and Elsigini (2021) is not merely technological but extends to issues of awareness among educators, inadequate infrastructure, and varying levels of digital literacy.

The consequences of this underutilization are profound. Colleges of Education continue to grapple with inefficient course management, limited opportunities for interactive learning, and a reliance on traditional assessment methods. The gap between the ideal and the current state hinders the realization of the full potential of technology in education, impacting the quality of teacher training and, consequently, the overall educational system.

The mode of learning in educational sector is changing, given that the growth of technology has dramatically reshaped the teaching and learning processes. Technology integration has become an essential part of learning and teaching, and most especially, digital learning has become a key factor in the teaching field (Alkhalaf et al., 2012). The integration of ICT in teaching has opened new horizons for teachers to have more interactive and learner-centered classroom environment. Academic learning



management systems (ALMS) are computer programmes that integrate functions for teaching, evaluation and administration of courses. ALMS have many features which include sharing of documents, discussion board, assessments, grade book and chat room. ALMS is increasing in higher education especially in developed countries, but many lecturers in developing countries like Nigeria, especially in North Western Zone, Nigeria state use only the parts or functions that replace older techniques for reproducing and distributing documents.

This research is prompted by the urgent need to bridge this gap and address the persistent challenges in the awareness and utilization of ALMS. The existing literature lacks a comprehensive understanding of the specific factors hindering the effective integration of ALMS in Nigerian Colleges of Education. By identifying and addressing these factors, the research aims to contribute not only to the academic discourse on educational technology but also to the practical improvement of teaching and learning in Nigeria's teacher training institutions.

Objectives of the Study

The specific objectives of this study were to:

- a. examine the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria;
- b. assess the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria;

Research Questions

The following research questions are raised to guide the study.

1. What is the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria?
2. Is there availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria?

Research Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance:

- H₀₁: There is no significant difference in the opinions of lecturers, registry staff, and school management on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria;
- H₀₂: There is no significant difference in the opinions of respondents on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria

Methodology

The study adopted survey research design with population of 5,995 (five thousand, nine hundred and ninety-five) respondents which comprised 3,625 (three thousand six hundred and twenty-five) lecturers, and 2,370 (two thousand three hundred and seventy) senior. A sample size of three hundred and sixty-five (365) participants, consisting of two hundred and twenty one lecturers (221) and one hundred and forty-four (144) senior management staff were used in the study. Data was collected through a self-structured questionnaire tagged "Awareness and Availability of Academic Learning Management System Questionnaire (AAALMSQ)". The result of the pilot study conducted showed a reliability value of 0.82. Data collected in the study was analysed using descriptive statistics while Chi-square statistical method was used to test the null hypotheses at 0.05 level of significance.



Result

Research Question one: What is the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria?

Table 1: level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria

SN	Statement	Respondents	SA	A	U	D	SD	Mean	SD	Remark
1.	I am aware of the existence of an Academic Learning Management System (LMS) in my institution.	Senior Mgt Staff	43	69	31	1	-	4.522	1.394	Positive
		Lecturers	31	121	28	1	40	4.051	1.236	
2.	I believe that the Academic Learning Management System enhances the overall teaching process in Colleges of Education.	Senior Mgt Staff	18	111	-	15	-	3.800	1.224	Positive
		Lecturers	89	132	-	-	-	3.724	1.411	
3.	The institution provides adequate training on the use of Academic LMS for both staff and students in Colleges of Education.	Senior Mgt Staff	19	108	3	14	-	3.777	1.715	Positive
		Lecturers	59	162	-	-	-	3.634	1.175	
4.	I find the Academic LMS user-friendly in Colleges of Education.	Senior Mgt Staff	11	121	12	-	-	3.200	1.414	Positive
		Lecturers	28	193	-	-	-	3.890	1.349	
5.	The Academic LMS has positively impacted the quality of course content delivery in Colleges of Education.	Senior Mgt Staff	23	100	-	12	-	4.177	1.092	Positive
		Lecturers	28	191	-	2	-	3.082	1.183	
6.	There is regular communication about updates to the Academic LMS in Colleges of Education.	Senior Mgt Staff	62	73	-	9	-	3.111	1.166	Positive
		Lecturers	27	194	-	-	-	3.652	1.257	
7.	The institution encourages the integration of the Academic LMS in teaching in Colleges of Education..	Senior Mgt Staff	40	96	-	8	-	3.922	1.563	Positive
		Lecturers	27	154	40	-	-	3.632	1.227	
8.	I am confident in troubleshooting basic issues related to the Academic LMS in Colleges of Education.	Senior Mgt Staff	55	81	-	-	8	3.333	1.118	Positive
		Lecturers	87	94	40	-	-	3.204	1.116	
9.	The Academic LMS adequately addresses the diverse learning needs of students in Colleges of Education.	Senior Mgt Staff	55	73	8	-	8	3.333	1.118	Positive
		Lecturers	40	141	-	40	-	3.715	1.147	
10	The institution actively seeks feedback from users to improve the Academic LMS in Colleges of Education	Senior Mgt Staff	55	55	12	3	19	3.222	1.301	Positive
		Lecturers	70	109	1	41	-	4.428	1.532	
Response Mean =									3.96	1.28

In Table 1, majority of the responses of the two categories of respondents from item 1-10 were in positive response, then, it is right to conclude that, the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria is very high. The table also presents the average response mean of 3.96 which is greater than the rating mean of 3.0. Most of the items stated regarding this research question recorded a positive response means higher than the



rating mean of 3.0, which indicated strong agreement on the part of the participants. For instance, item number 1 on the table which revealed that I am aware of the existence of an Academic Learning Management System (LMS) in my institution. The item recorded the response means of 4.522, and 4.051 by the senior management staff, and lecturers respectively. Details showed that 112 senior management staff agreed with the item, 1 respondent disagreed and 31 undecided. Similarly, 152 lecturers strongly agreed with the item, 41 disagreed, 41 stayed undecided, with the item. By implication, this result implies that there is high level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria.

Table 2: Availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria

SN	Statement	Respondents	SA	A	U	D	SD	Mean	SD	Remark
1.	The Academic Learning Management System infrastructure is easily accessible in Colleges of Education.	Senior Mgt Staff	22	-	27	87	8	2.067	1.481	
		Lecturers	40	30	-	151	-	2.077	1.144	Negative
2.	There is availability of hardware resources (computers, servers) to support the Academic LMS in Colleges of Education.	Senior Mgt Staff	-	23	23	73	25	2.111	1.166	
		Lecturers	40	-	30	139	12	2.393	0.970	Negative
3.	The network connectivity for the Academic LMS is consistently reliable in Colleges of Education.	Senior Mgt Staff	-	24	12	97	11	2.444	1.236	
		Lecturers	-	-	32	179	10	2.367	1.025	Negative
4.	There is sufficient bandwidth to support the use of multimedia in the Academic LMS in Colleges of Education.	Senior Mgt Staff	-	-	21	78	45	2.666	1.118	
		Lecturers	-	51	29	140	1	2.043	1.205	Negative
5.	The Academic LMS software is regularly updated to ensure optimal performance in Colleges of Education.	Senior Mgt Staff	-	22	17	53	52	2.555	1.424	
		Lecturers	-	1	81	138	1	2.112	1.266	Negative
6.	The College provides technical staff for timely troubleshooting of Academic LMS issues.	Senior Mgt Staff	-	-	8	100	36	2.222	1.481	
		Lecturers	-	-	-	169	52	2.293	1.073	Negative
7.	The Academic LMS infrastructure is scalable to accommodate future growth in Colleges of Education.	Senior Mgt Staff	-	-	-	108	36	2.991	1.211	
		Lecturers	5	4	1	130	81	2.330	1.253	Negative
8.	The College invests in cybersecurity measures to protect the Academic LMS data.	Senior Mgt Staff	3	-	-	92	49	2.222	1.201	
		Lecturers	1	-	28	142	50	2.083	1.106	Negative
9.	There are backup and recovery mechanisms in place for LMS data in Colleges of Education.	Senior Mgt Staff	-	-	17	93	34	2.205	1.394	
		Lecturers	5	58	65	167	53	2.037	1.147	Negative
10	The College allocates sufficient budget for the maintenance of LMS.	Senior Mgt Staff	-	29	3	84	31	2.198	1.100	
		Lecturers	-	51	29	140	1	2.109	1.043	Negative
Response Mean =									2.79	1.20



In another note, Table 2 revealed that the majority of the responses of the two categories of respondents from item 1-10 were in negative response, then, it is right to conclude that, the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria is very low. The table also presents the average response mean of 2.79 which is lower than the rating mean of 3.0. Most of the items stated regarding this research question recorded a negative response means lower than the rating mean of 3.0, which indicated strong disagreement on the part of the participants. For instance, item number 1 on the table which revealed that the Academic Learning Management System infrastructure is easily accessible in Colleges of Education. The item recorded the response means of 2.067, and 2.077 by the senior management staff, and lecturers respectively. Details showed that 22 senior management staff agreed with the item, 27 respondents undecided and 95 disagreed. Similarly, 70 lecturers strongly agreed with the item, 151 disagreed, none undecided, with the item. By implication, this result implies that there is low availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria.

Hypothesis One: There is no significant difference in the opinions of lecturers and school management on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria.

The opinions of senior management staff and lecturers on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria are analysed using chi-square (χ^2). The summary of the hypothesis tested is presented in table 3:

Table 3: Summary of Chi-square test on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria

Number	χ^2 cal.	χ^2 crit.	α	Df	P-value	Decision
365	48.161	18.27	0.05	27	0.000	Rejected

Table 3 revealed that the χ^2 cal. (48.161) is greater than the χ^2 crit. (18.27) at 63 degrees of freedom and at 0.05 level of significance. This result therefore means that there is significant difference in the opinions of lecturers and school management on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria. The implication of this result is to reject the hypothesis which says that there is no significant difference in the opinions of senior management staff and lecturers on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria.

Hypothesis Two: There is no significant difference in the opinions of respondents on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria.

The opinions of senior management staff and lecturers on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria are analysed using chi-square (χ^2). The summary of the hypothesis tested is presented in table 4:

Table 4: Summary of Chi-square test on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria

Number	χ^2 cal.	χ^2 crit.	α	Df	P-value	Decision
365	93.83	18.27	0.05	27	0.206	Retained

Table 4 revealed that the χ^2 cal. (93.83) is greater than the χ^2 crit. (18.27) at 77 degrees of freedom and at 0.05 level of significance. This result therefore means that there is no significant difference in the opinions of respondents on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria. The implication of this result is to retain the hypothesis which says that there is no significant difference in the opinions of



respondents on the availability of Academic Learning Management System Infrastructure in Federal Colleges of Education in North West Zone, Nigeria.

Summary of Findings

In view of the research questions answered and hypotheses tested in the study, findings emerged that.

1. The opinions of senior management staff and lecturers were high on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria. On the test of hypothesis, significant difference was observed in the response of the participants ($p\text{-value } .000 < 0.05$ alpha level).
2. In the opinions of senior management staff and lecturers, the availability of Academic Learning Management System Infrastructure is very low in Federal Colleges of Education in North West Zone, Nigeria. On the test of hypothesis, no significant difference was observed in the response of the participants ($p\text{-value } .206 > 0.05$ alpha level).

Discussions

The findings of the study revealed that there is significant difference in the opinions of lecturers and school management on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria. As a result, hypothesis one which says that there is no significant difference in the opinions of senior management staff and lecturers on the level of awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria was rejected. This connote that the hypothesis was statistically significant and by implication there is high level of awareness of Academic Learning Management System in Federal Colleges of Education. The result upheld the findings of Ojo, Salawu, and Adedapo (2022) that, students had a high level of awareness ($\pi = 2.92$; $SD = 1.02$) of open educational resources for learning and also aware of the effect ($\pi = 2.58$; $SD = .98$) of the use of OERs on their academic achievements also with a range of identified challenges of the proper use of OERs for education. Findings also established significant institutional affiliation differences in the levels of students' awareness ($F(11,2986) = 14.15$; $p = 0.00 < 0.05$), perceived effect of the use of OERs on academic achievements ($F(11,2986) = 32.97$; $p = 0.00 < 0.05$) and perceived challenges ($F(11,2986) = 15.85$; $p = 0.00 < 0.05$) towards the utilisation of OERs for education. Also, it upheld the findings of Olatunji and Akinsulire (2022) whose findings of the study revealed a weighted mean of 3.31 against the threshold of 2.50 which showed that the level of awareness of undergraduate students about the learning management system was high. Also, it revealed a weighted mean of 2.56 greater than the threshold of 2.50 which showed that the majority of the selected undergraduates had a positive attitude to the learning management system. Based on the findings of the study, it was recommended that relevant educational bodies and stakeholders should ensure that both lecturers and undergraduates are aware of Learning Management System. Government should do everything possible to provide online facilities and equipment for tertiary institutions. The Academic Staff Union of Nigerian Universities (ASUU) and other educational bodies should organize seminars, workshops and conferences on how to use online platforms to teach English Language courses effectively. The finding on the other hand contradicts the research findings of Jonathan (2022) which findings revealed that there was a limited knowledge as far as the LMS was concerned. In addition, graduate males had sufficient knowledge of the features of the e-learning platform than graduate females. Also, the findings revealed that age had no significant impact on the knowledge of the LMS among graduate students. The study concluded that graduate students in the University of Ghana's College of Humanities (UGCH) had inadequate knowledge of the Learning Management System and as a result may hardly use it. The study recommends that graduate students be taught how to effectively use the features of the LMS for their academic and research activities. Again, to encourage lifelong learning and human resource development, the incorporation of e-learning resources into tertiary education could be made mandatory.



Conclusion

Based on the findings it can be concluded that the awareness of Academic Learning Management System in Federal Colleges of Education in North West Zone, Nigeria is so high but has not been sufficiently utilized. However, in consistent with the literature, the availability of Academic Learning Management System Infrastructure is very low in Federal Colleges of Education in North West Zone, Nigeria.

Recommendations

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

1. Colleges of Education staff across board should be trained on the effective use and application of Academic Learning Management System tools in consonance with the goals and objectives of the education system through strategic adherence to innovation.
2. Academic Learning Management System infrastructure should be established and promoted by the institution's senior management. This should start at the top of the organization and be replicated all the way down the management chain.

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