

UTILIZATION OF LEARNING MANAGEMENT SYSTEM'S FEATURES FOR INSTRUCTIONAL DELIVERY BY FACULTY MEMBERS OF AHMADU BELLO UNIVERSITY, ZARIA

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Abstract

This study investigated utilization of Learning Management System's features for instructional delivery by faculty members of Ahmadu Bello University, Zaria. Two research questions guided the study which include: what features of LMS do Faculty Members prepared to use for instructional delivery in ABU, Zaria? and To what extent do academic staff utilize the features of LMS for instructional delivery in ABU, Zaria? Quantitative Approach and cross-sectional survey research design was used, the population of the study comprised of four hundred and seventy-four (474) Faculty Members, one hundred and sixty-seven (167) were used as a sample size. Questionnaire in form of google form was used as the instrument for data collection. The study discovered that shared/interactive whiteboard and recording/storage capacity were the features of LMS that Faculty Members preferred to utilize for instructional delivery in ABU, Zaria. Also, the study revealed that all the features of LMS identified were not adequately utilized because they were all below the benchmark. The study recommended that; the management of ABU, Zaria should sponsor the development of "home-grown" LMS or upgrade the already adopted LMS to incorporate the peculiar needs/features and functionalities that faculty members preferred to use. Also, the Management of ABU, Zaria in collaboration with ICT unit of the university should ensure creating user-friendly guides and used gamification on the LMS so that it can look interesting and motivating for faculty members to use for instructional delivery.

Keywords: Faculty Members, Instructional Delivery, Learning Management System, Utilization

Introduction

LMS is the prominent ICT platform over which distance and or virtual learning is delivered. For higher education institutions, LMS is seen as a promising tool where the perpetual physical interaction of teacher and student is not guaranteed. Effective use of LMS features enriches the learning experience for all stakeholders involved. However, a comparison of these two perspectives has not yet been provided. Teachers and students are the dominant players in the learning experience. Communal involvement of both parties governs the productivity of learning experiences. As such, an effective use of LMS as a learning tool will depend on the active involvement of both teachers and students. Whilst academics are regarded as the significant influencers in promoting and enhancing the use of LMS, students also hold an equal share of responsibility to generate greater LMS adoption (Tennakoon & Lasanthika, 2019). The utilization of LMS by instructors is believed to be influenced by perceived ease of use, perceived usefulness, attitude toward usage and job relevance. Meanwhile, for students, factors such as attitude towards LMS, self-efficiency, experience and interaction with lecturers and other classmates are of significant influence

The use of the platform is an asset for instructors and students to carry out collaborative activities and incorporate them successfully into the dynamics of the teaching– learning process. The LMS from a functional perspective, has easily configurable characteristics, which allows the creation of student assessment processes (questionnaire, multiple choice questions and online tests) and the management of their tasks, using LMS can also enrich learning by providing an automated and adaptive educational assessment, it also allow the development of new participatory strategies that are focused on students in their own learning and in the

development of metacognitive strategies that strengthen their (Arancibia et al., 2018). The use of a Learning Management System (LMS) is beneficial for both instructors and students, enabling collaborative activities that enhance the teaching-learning process. It offers configurable features for creating assessments, managing tasks, and automating adaptive evaluations, thereby enriching the learning experience. Additionally, LMS promotes student-centered strategies that encourage active participation and the development of metacognitive skills, improving overall learning outcomes.

Statement of the Problem

The utilization of Learning Management System (LMS) features by faculty members at Ahmadu Bello University (ABU), Zaria, presents significant challenges in effectively enhancing instructional delivery. While LMS platforms offer a range of tools designed to improve teaching and learning experiences, such as content management, communication tools, and assessment features, the extent to which these tools are being fully utilized by faculty remains unclear. Factors such as limited technical proficiency, lack of adequate training, and resistance to adopting new technologies may hinder faculty members from maximizing the potential of LMS features in their instructional practices. This underutilization can lead to a gap between the available technology and its actual impact on student learning outcomes. Furthermore, there is a need to investigate how faculty members' use of LMS features aligns with best practices in instructional delivery. If faculty members are not fully leveraging the interactive and collaborative tools provided by the LMS, the potential benefits of enhanced student engagement, personalized learning experiences, and efficient course management

may not be realized. This situation raises concerns about the effectiveness of LMS integration in the university's teaching strategy and highlights the need for targeted interventions to support faculty in utilizing these digital tools to their full potential.

Research Questions

The following research questions were used:

1. What features of Learning Management System do academic staff prefer to use for instructional delivery in Ahmadu Bello University, Zaria-Nigeria?
2. To what extent do academic staff utilize the features of Learning Management System for instructional delivery in Ahmadu Bello University, Zaria-Nigeria?

Literature Review

Features of Learning Management System

The study conducted by (Aldiab et al., 2019) identified the following features of LMS: The first feature is the concept of discarding the physical location. LMS can be used as an effective tool for students belonging to the same university and studying in different campuses. Some universities have multiple campuses that might be national and international campuses which basically may have different time zone. LMS is used to gather all these different students in one virtual place enhancing all their interactions, discussions and feedbacks. In fact, using LMSs or eLearning is beneficial for all students generally, and particularly for those students

who have some difficulties such as living in places far from the original physical campus (rural areas or different country) or having health problems as it is a continues educational proses regardless of the location and time.

Accessibility is another feature of applying LMSs in academic sector. In the past few years, personal computers (PCs) and laptops were the main devices that many students use. But today, there is an increase in the number of digital devices (Bring Your Own Device (BYOD)) that includes the new generation of smartphones, tablets and phablets among students and teachers to use for academic purposes and other social purposes alike, As a result, most LMSs have increased their accessibility and allow their users “students and instructors” to login via various ways such as using any Internet browsers from computers or the official app of that LMS as most LMSs have their own app in different operating systems (that are Android, IOS and Windows Phone (WP)). Another feature of the LMS is that, LMSs are attractive Environments. In some cases, eLearning generally and LMSs particularly be an attractive environment especially for young students. Using gamification or video games for educational purposes might attract the school-age children as well as adolescences, that is in their performance and the final outcomes(Aldiab et al., 2019). In fact, many LMSs support this optional feature and the implementation of it is depending on a decision from a management of an academic institution

Furthermore, LMS features/tools were divided into the following four groups, depending on their perceived impact on the educational process. (Jurado et al., 2013):

- i. Tools for distribution, that allow lecturers to upload documents, available to students. Earlier it was mainly text documents and today it may also be different kinds of media files. Nevertheless, the process is still one-way, that is, teacher-to-learner distribution of information.
- ii. Tools for communication that allow information to go either way as well as from student-to-student. The most common example is E-mail.
- iii. Tools for interaction which call for reaction and feedback. Discussion boards are the most typical example. These tools are of great interest since they may promote student activity and cooperation, hence enhancing the learning experience.
- iv. Tools for course administration, tools that are used to monitor and document the educational process, rather than facilitate teaching or learning. A special case is the tool “surveys” in Ping Pong. It technically facilitates interaction in many ways but was only used to enable a course evaluation in the courses investigated in this study. Because of the way it was used, the tool was classified as a tool for course management and not as a tool for interaction.

Moreover, there are also features/tools Learning Management System to guide universities’ choice as postulated by (Kpolovie & Lale, 2017):

a. Sharable Content Object Reference Model (SCORM)

These are software specifications that allow cross-software communication. In many industries, these features are necessary standards require for any LMS used. As such, every serious and productive LMS will at least be SCORM compliant. Where

SCORM is not, then there must be Experience API (xAPI) that is projected to replace SCORM overtime with technological advancement. The SCORM postulated that collaborative communication, presentation environment, storage capacity, plug-ins, multimedia environment, compatibility and adaptability are the basic required features for any LMS to work effectively in both organizational and academic settings.

- b. **Tracking or reporting:** The details you'll see with results reporting varies widely between software. Sometimes you'll find a detailed data-based system, other times you'll find a more general, graphical reporting style. Find a style that you think will work for you, but know that all software should have this in some form.
- c. **Multimediahosting:** Every single LMS should be able to host images, video, and audio files. Every single one. If the LMS you're looking at cannot do these things, it's outdated. Even the most basic of systems can embed a YouTube link.
- d. **In-app messaging:** Some systems go for forums, others go for instant messaging, and others go for intra-mail. Many combines two or more of the above. Figure out what style you'd prefer.
- e. **In-app testing and assessment:** Just as your LMS hosts lesson content, it should also support testing functions. If these tests are multiple choice, the software should also offer automatic grading. It will take a lot of pressure off of needing to evaluate your students manually for every quiz.

- f. **White labelling:** LMS with white labelling allows greater aesthetics showcasing of the institution using it to prevail throughout the learning management software. White labelling is more often found on big-ticket software, but a little tech savvy can make any open-source system white labelled, too.
- g. **Learning Activity Management (LAM):** LAM is an open-source learning system that LMS uses for designing, managing, and delivering online collaborative learning activities. It provides lecturers with an intuitive visual authoring environment for creating sequences of learning activities that include a range of individual tasks, small group work and whole class activity that is based on both content and collaboration.
- h. **Synchronous and Asynchronous Learning:** LMS could be used for both synchronous and asynchronous settings. While synchronous learning occurs in real-time, with all participants interacting at the same time, asynchronous learning is self-paced and allows participants to engage in the teaching-learning interaction without depending on other participants' involvement at the same time. Synchronous refers to the exchange of ideas and information with one or more participants during the same period.

Extent of Utilizing Learning Management System Features for Instructional Delivery

Usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use, usability of LMS plays a significant role towards the success of e-learning, if an e-learning system is not usable enough, it obstructs students' learning: the learners would spend more time learning how to use the

system rather than learning the content. According to (Rhode et al., 2017) Educators have long sought to infuse contemporary innovations into teaching and learning, through the years, various print, audio, video, and computer technologies have been incorporated into education and training, with each wave of technological innovation, tools become more seamless and instructional practices evolve (Edebatu et al., 2019). As the Internet came of age, Learning Management System (LMS) technology became widely available and useable, enabling faculty members with little technical skills to deliver instruction to students at a distance. Most higher education institutions have since integrated and use LMS with other institutional infrastructure systems, encouraged faculty adoption of the LMS, and provided the necessary user training and support. Understanding the growth and adoption of the LMS is a stepping stone to understanding how faculty members may choose to adopt other technological and pedagogical innovations

The pervasive use of learning management systems (LMS) in tertiary institutions has had profound effects on teaching practices and the engagement of students in the learning process. An LMS is a web-based system that incorporates an extensive range of pedagogical and course administration tools. The features facilitate access to education by reducing costs and providing a flexible mode of learning. In Africa, Nigeria specifically, only a handful of higher education institutions have adopted the use of a LMS for teaching and learning purposes (Mohammed, 2019). The high cost of Internet access and Internet-ready devices were initially attributed to the low adoption of LMS, but now that the prices of Internet-ready devices (phones, tablets, and laptops) are affordable, universities have started to consider the use of LMS especially to facilitate distance learning

Through the use of technology, teaching and learning can be made interactive and in turn the instructions become more effective, LMS is one such technology that supports e-learning programs. In higher education, LMS integration into teaching and learning has significantly increased LMS relevance and also facilitates the learning process and the instructors' involvement in effective use of technology, by developing and organizing the learning material and other relevant content. Throughout the process of LMS, the involved personnel are able to manage the interacting activities between the learners and teachers, along with the individual needs of managing the students (tracking their performance and other relevant areas)(Tennakoon & Lasanthika, 2019). The adoption of LMS in the learning sector are based on the objectives of enhancing the performance outcomes of the students as well as the instructor; thus, reflecting the cost-effective management of educational resources in general document the effectiveness of electronic learning in terms of mitigating potential issues in educational organizations. LMS is an attractive approach to address these issues, due to its relatively inexpensive nature and the ease of adoption

Methodology

Quantitative research methodology was adopted and cross-sectional survey research design was used for the study, the population of the study comprised of all the academic staff in the selected faculties (faculty of education, faculty of life science and faculty of physical science) which amount to four hundred and seventy-four (474), and one hundred and sixty-seven academic staff were used as a sample size using Louis, Lawrence and Keith (2011) sample size determination Table, simple random sampling technique was used. The researcher used questionnaire in form of google form as the instrument for data collection and the data

collected for research questions were analysed using descriptive statistical tools (Frequency distribution, percentage, mean and standard deviation).

Data Presentation and Discussion

The following Tables presented the analysis of data collected from the respondents:

S/N	Features of Learning Management System	Studied Faculties						Total	
		FOE		FOLS		FOPS			
		F	%	F	%	F	%	F	%
1.	Grading/Online Assessment	47	33.8	34	24.5	52	37.4	133	95.7
2.	File Exchange	43	30.9	25	18.0	40	28.8	108	77.7
3.	Shared/Interactive Whiteboard	47	33.8	34	24.5	54	38.8	135	97.1
4.	Course Announcement/Notice/New	38	27.3	30	21.6	36	25.9	104	74.8
5.	Course Calendar and Schedules	36	25.9	28	20.1	32	23.0	96	69.1
6.	Email and Collaborative Communication	42	30.2	32	23.0	45	32.4	119	85.6
7.	Tracking Students’ Participation	43	30.9	36	25.9	51	36.7	130	93.5
8.	Presentation Platforms	40	28.8	21	15.1	41	29.5	102	73.4
9.	Online Polls	37	26.6	17	12.2	29	20.9	83	59.7

Table	10.	Online Interaction	29	20.9	22	15.8	48	34.5	99	71.2
	11.	Posting Course Information	36	25.9	25	18.0	36	25.9	97	69.8
	12.	Plug-ins	41	29.5	32	23.0	49	35.3	122	87.8
	13.	Recording/Storage Capacity	47	33.8	35	25.2	53	38.1	135	97.1
	14.	Synchronous	44	31.7	36	25.9	52	37.4	132	95.0
	15.	Asynchronous	34	24.5	26	18.7	46	33.1	106	76.3

1:Preferred features of Learning Management System for instructional delivery by academic staff in the faculties of ABU, Zaria.

Source: Field Survey (2024)

Key LMS: Learning Management System, FOE: Faculty of Education, FOLS: Faculty of Life Sciences, FOPS: Faculty of Physical Sciences, F: Frequency, %: Percentage.

Table 1 presents the features of LMS that academic staff preferred to use for instructional delivery and the Table revealed that shared/interactive whiteboard and recording/storage capacity had the highest frequency and percentage of 135(97.1%) then followed by grading/online assessment with 133(95.7%), closely followed by synchronous with 132(95.0%), then tracking students' participation with 130(93.5%), followed by plug-ins with 122(87.8%), then email/collaborative communication with 119(85.6%), followed by file exchange with 108(77.7%) then asynchronous with 106(76.3%), course announcement/notice/news with 104(74.8%),

followed by presentation platforms with 102(73.4%), online interaction with 99(71.2%), posting course information with 97(69.8%), closely followed by course calendar and schedules with 96(69.1%) and lastly online polls with 83(59.7%).

It can be deduced that shared/interactive whiteboard and recording/storage capacity were the most prepared LMS features to be use for instructional delivery by academic staff of faculties in ABU, Zaria because they recorded the highest frequency and percentage. Whilst, online poll was the least prepared LMS feature to be use for instructional delivery by academic staff of faculties in ABU, Zaria, because it possessed the least frequency and percentage among other identified features.

Table 2: Extent of Utilizing LMS Features for Instructional Delivery by Academic Staff in the Faculties of ABU, Zaria.

S/N	Features of Learning Management System	Highly Utilised		Utilised		Rarely Utilised		Not Utilized		Undecided		Total		M	SD
		F	%	F	%	F	%	F	%	F	%	F	%		
1.	Grading/Online Assessment	21	15.1	32	23.0	3	2.2	8	5.8	75	54.0	139	100.0	2.5	0.4
2.	File Exchange	18	12.9	41	29.5	1	0.7	4	2.9	75	54.0	139	100.0	2.5	1.4
3.	Shared/Interactive whiteboard	2	1.4	5	3.6	27	19.4	31	22.3	74	53.2	139	100.0	1.8	1.2
4.	Course announcement/notice/new	29	20.9	37	26.6	1	0.7	2	1.4	70	50.4	139	100.0	2.7	1.5
5.	Course Calendar and schedules	11	7.9	24	17.3	13	9.4	14	10.1	77	55.4	139	100.0	2.1	0.2
6.	Email and collaborative communication	24	17.3	42	30.2	6	4.3	3	2.2	64	46.0	139	100.0	2.7	0.2
7.	Tracking students' participation	9	6.5	24	17.3	21	15.1	20	14.4	65	46.8	139	100.0	2.2	0.2
8.	Presentation platforms	14	10.1	17	12.2	9	6.5	34	24.5	65	46.8	139	100.0	2.1	0.2
9.	Online polls	9	6.5	25	18.0	22	15.8	8	5.8	75	54.0	139	100.0	2.2	0.2
10.	Online interaction	14	10.1	22	15.8	4	2.9	27	19.4	72	51.8	139	100.0	2.1	0.3
11.	Posting course information	31	22.3	33	23.7	5	3.6	6	4.3	64	46.0	139	100.0	2.7	0.3
12.	Plug-ins	18	12.9	41	29.5	3	2.2	6	4.3	71	51.1	139	100.0	2.4	0.5
13.	Recording/Storage capacity	12	8.6	22	15.8	14	10.1	25	18.0	66	47.5	139	100.0	2.2	0.2
14.	Synchronous	20	14.4	27	19.4	11	7.9	24	17.3	57	41.0	139	100.0	2.4	0.1
15.	Asynchronous	17	12.2	26	18.7	15	10.8	24	17.3	60	43.2	139	100.0	2.5	0.1

Source: Field Survey (2024)

Key:

LMS: Learning Management System, FOE: Faculty of Education, FOLS: Faculty of Life Sciences, FOPS: Faculty of Physical Sciences, F: Frequency, %: Percentage.

Table 2 showed the extent to which the academic staff used LMS features for instructional delivery, and the Table revealed that course announcement/notice/news; email and collaborative communication; and posting course information had the highest mean value of 2.7 each, followed by grading/online assessment, file exchange and asynchronous with a mean value of 2.5 each, closely followed by plug-ins and synchronous with 2.4 each, then tracking students' participation; online polls and recording/storage capacity with 2.2 each, followed by course calendar and schedules; presentation platforms; and online interactions with 2.1 mean value each, and lastly followed by shared/interactive whiteboards with a mean value of 1.8. Thus, it was discovered that none of the LMS features appeared to be on the positive side because they all recorded a mean value below the benchmark of 3.0, and the least used feature among them was shared/interactive board.

Summary of the Findings

The following are the findings of the Study:

1. This study discovered that shared/interactive whiteboard and recording/storage capacity were the features of Learning Management System that academic staff preferred to use for instructional delivery in the faculties of Ahmadu Bello University, Zaria.
2. This study revealed that all the features of Learning Management System (course announcement/notice/news; email and collaborative communication; posting course information, grading/online assessment, file exchange, asynchronous, plug-ins,

synchronous, tracking students' participation; online polls, recording/storage capacity, course calendar and schedules; presentation platforms; online interactions; and shared/interactive whiteboards) were not adequately utilize because they were all on the negative side below the benchmark.

Conclusion

The utilization of Learning Management System (LMS) features by faculty members at Ahmadu Bello University, Zaria, underscores a transformative approach to instructional delivery, significantly enhancing the instructional delivery. Faculty members have increasingly utilized LMS functionalities such as online assessments, multimedia content delivery, and interactive forums to create more engaging and flexible learning environments. This shift not only facilitates a more student-centered approach but also promotes continuous learning and collaboration.

Recommendations

The following recommendations were provided in line with the objectives of the Study and findings of the study:

1. The management of Ahmadu Bello University, Zaria should sponsor the development of “home-grown” Learning Management System or upgrade the already adopted LMS to address or incorporate the peculiar needs/features and functionalities that academic staff preferred to use for instructional delivery especially shared/interactive whiteboard and recording/storage capacity.

2. The Management of Ahmadu Bello University, Zaria in collaboration with ICT unit/department of the university should ensure creating user-friendly guides and used gamification on the LMS so that it can look interesting and motivating for academic staff to use for instructional delivery.
3. The Management of Ahmadu Bello University, Zaria should provide extensive training to academic staff on regular basis on the use of LMS features for instructional delivery in the faculties of Ahmadu Bello University, Zaria.

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