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Assessment of Secondary School Teachers' Adoption of Learning Management Systems for Instruction in Kwara State, Nigeria

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Abstract
This study investigates challenges faced by secondary school teachers in adopting LMS for assessment. The study adopted a descriptive survey research design. This study was conducted among secondary school teachers in Ilorin, Nigeria. The target population for this study involved science teachers. A sample of 300 science teachers was purposefully selected for the study, from 20 secondary schools. The research was guided by three research questions. Researchers-designed questionnaire was used to elicit relevant data which were analyzed using descriptive statistics of mean and standard deviation. The findings showed that learning management systems have the potential to save time as well as improve assessment quality, among others. The results also revealed some challenges in learning management systems to include difficulty navigating learning management systems platform, inadequate technical support and insufficient training. The study recommended, among others, that school administrators should establish a conducive learning environment and equip teachers with necessary technological skills.
Keywords*:* learning management systems (lms), secondary school education, assessment, digital equity, professional development

Introduction

Learning management system (LMS) is a software application that is designed to help in administering, documenting, tracking, reporting, and delivering educational courses or

training programmes in educational system. LMSs started to be widely used in schools in Turkey. It is also a platform that allows the teachers and instructors to manage, create and deliver, effectively, online courses, educational contents and training programmes to students. LMSs are gradually changing methods of instruction of the teaching staff in secondary schools and at university level. LMS does not only form the foundation of distance education, it is also greatly used to support traditional face-to-face teaching in a blended learning organization.

Online course offerings continue to increase. Teaching, designing, and developing online courses require extensive faculty development. Many faculty members are not motivated to teach their classes using the support of an LMS for a variety of reasons. Apart from universities, LMSs are widely used in primary and secondary schools in Nigeria. The classroom environment has changed radically in the last few decades. To achieve an effective learning environment in the classroom, teachers started to implement digital tools. Since each and every student needs unique personalized education, varied assessment tools, and different success criteria, continuous learning in and out of the classroom is the teachers' agenda. Learning technologies help teachers and students to achieve these new goals.

There are however some challenges in adopting LMS in secondary schools. Technological barrier is one of the challenges faced by many secondary school teachers, caused by lack of adequate digital literacy and technical skills to effectively utilize LMS features for assessments (Al-Ajlan & Zedan, 2018). Limited training and professional development opportunities also contributes to this challenge, leaving educators unprepared to navigate complex LMS functionalities (Al-Maroof & Alhumaid, 2021). Infrastructure and resource constraints caused by insufficient technological infrastructure which includes unreliable internet connectivity, inadequate devices, and lack of institutional support, also hinder LMS adoption (Khan et al., 2020). Many schools in rural and underfunded regions are particularly affected thus limiting equitable access to digital assessment tools (UNESCO, 2021).

Resistance to change by many teachers, as a result of familiarity to traditional assessment methods, may inhibit transitioning to LMS due to perceived complexity or skepticism about its effectiveness (Al-Fraihat et al., 2020). Institutional resistance and lack of policy enforcement contribute to slow integration of LMS (Tarhini & Chen Wu, 2017). Student-related challenges as a result of uneven students' access to digital devices and varying levels of digital literacy create disparities in online assessment participation (Dhawan, 2020; Eyo,

2016). Furthermore, concerns over academic dishonesty and plagiarism in digital assessments pose rigorous challenge for teachers (Rasheed et al., 2020). Time and workload constraints is another challenge. Administering, designing and grading assessments via LMS can be time-consuming, especially for teachers with large class sizes (Alqahtani & Rajkhan, 2020). Without proper training and skill, manual grading and technical troubleshooting may also increase workload, thus reducing efficiency gains. This present study focused on challenges faced by secondary school teachers in adopting Learning Management System assessment in Kwara State, Nigeria, using teachers in secondary schools.

Adoption of Learning Management Systems (LMS) in educational system is often analyzed through established theories. In recent studies, Technology Acceptance Model (TAM) is integrated with contextual factors like pandemic-induced remote learning (Almaiah et al., 2022). By extension, Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), emphasize perceived ease of use and usefulness in hybrid environments (Kumar & Sharma, 2023). Research studies underscores the gap between technological skills and pedagogical integration in educational system, particularly for assessment design (Harris 2023). These frameworks reveal that LMS adoption is not merely technical but shaped by contextual, institutional, and psychological factors in education. The adoption of Learning Management Systems (LMS) for assessment in secondary education has gained a lot due to advancements in digital learning technologies. LMS platforms such as Moodle, Google Classroom, and Canvas offer functionalities for automated grading, real-time feedback, and data-driven assessment analytics (Almarashdeh, 2016).

However, despite all these benefits, secondary school teachers encounter numerous challenges that disallow effective LMS integration for assessment purposes. This review examines these challenges in the perspectives of technological, institutional, pedagogical, and socio-economic factors. Pedagogical and assessment related challenges like assessment design and integrity concerns is a major challenge. Designing effective digital assessments involves a shift in pedagogical approaches. Teachers struggle with creating question banks, rubrics, and plagiarism detection mechanisms (Alqahtani & Rajkhan, 2020). In addition, online exams raise concerns about cheating and authenticity (Rasheed et al., 2020). Time constraints and workload is another challenge facing the adoption of LMS. Though LMS is automated, initial setup and grading can be time-consuming, particularly for teachers managing large classes (Alqahtani & Rajkhan, 2020). Without streamlined workflows, LMS adoption may increase rather than reduce workload.

Unequal access to technology by students from low-income backgrounds is another challenge. Such students may lack devices or stable internet, creating imbalances in assessment participation (UNESCO, 2021). This digital divide forces teachers to adopt hybrid models, thus complicating LMS-based assessment consistency. There is also the problem of varied digital literacy levels by students. The differing levels of tech-savviness affect students' capacity to navigate LMS assessments, requiring additional support of teacher (Dhawan, 2020). This also adds to the instructional burden which discourages LMS adoption. More so, studies show that students' inability to navigate LMS affects assessment outcomes. Research in Indonesia found that 30% of students failed LMS quizzes due to technical errors rather than knowledge gaps (Pratama & Aliyyah, 2021).

Some studies highlight that many secondary school teachers lack sufficient training to use LMS effectively. A survey by Al-Maroof and Alhumaid (2021) involving 320 teachers in the UAE found that 62% struggled with basic LMS functions, such as creating quizzes or interpreting analytics. Similarly, a study in Nigerian secondary schools reported that only 38% of teachers could independently set up online assessments due to inadequate training (Okoye et al., 2021). With reference to poor technical infrastructure, empirical evidence shows that unreliable internet and outdated devices hinder LMS adoption. A UNESCO (2021) study across 10 developing countries found that only 45% of rural schools had stable internet, forcing teachers to rely on offline methods. In India, Khan et al. (2020) surveyed 200 schools and found that 60% lacked sufficient devices for all students, thus complicating digital assessments. A UNICEF (2022) report found that over 50% of students in low-income households lacked reliable internet, forcing teachers to use hybrid assessment models. In the Philippines, a study by Dela Cruz (2021) found that 35% of students missed LMS assessments as a result of connectivity issues.

On lack of policy enforcement, research indicates that without mandatory LMS adoption policies, usage remains inconsistent. A case study in Malaysian schools (Rasheed et al., 2020) revealed that only 25% of teachers consistently used LMS for assessments, because there was no institutional mandate. With focus on technical support, a study by Alqahtani and Rajkhan (2020) in Saudi Arabia found that 70% of teachers reported delays in IT support which discourages LMS use. Another study in Kenya found that only 15% of schools had dedicated LMS support staff, leading to frequent disruptions (Mugo et al., 2022).

On difficulty in designing digital assessments, empirical studies show that teachers struggle with LMS-based assessment design. A survey by Tarhini and Chen Wu (2017) in Lebanon

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found that 55% of teachers lacked skills in creating interactive quizzes or rubrics. Similarly, a study in Brazil found that 40% of teachers reverted to paper exams due to LMS complexity (Silva et al., 2021). Research confirms that cheating in online assessments is also a major concern. A study in the U.S. found that 68% of teachers doubted the authenticity of LMS-submitted assignments (Watson & Sottile, 2022). In South Africa, a study by Dlamini (2023) reported that 52% of schools avoided timed online exams due to cheating risks.

Research gaps identify four major categories of challenges which are technological barriers (poor training, infrastructure), institutional weaknesses (lack of policies, IT support), pedagogical difficulties (assessment design, cheating risks) and student-related issues (access disparities, low digital skills). Few studies explore gender differences in LMS adoption among teachers. Recent studies (2020–2023) identify recurring challenges like technological barriers; that 42% of rural secondary school teachers reported inadequate devices for LMS use (Smith, 2023). Platform incompatibility with mobile devices hindered engagement (Harris, 2023). According to Lee and Garcia (2023), teachers spent 20% more-time adapting assessments to LMS formats.

Research questions

The following research questions guided the study:

1. What challenges do secondary school teachers in Ilorin face in adopting learning management systems for assessments?
2. What benefits do teachers perceive in using LMS for classroom assessments?
3. What strategies can be proposed to address the challenges faced by teachers in adopting LMS for assessments?

Methodology

This research adopted descriptive survey research method. Descriptive survey research is a type of research in which information is collected without changing the environment (nothing is manipulated). This method of descriptive survey research was chosen to enable the researchers to make useful deduction and judgment on the adoption of LMS for classroom assessment by secondary school teachers. The population for this study is all secondary school teachers in Ilorin, Kwara State. Ilorin was chosen because of the availability of LMS facilities in the local government area compared to others. 300 teachers were sampled from twenty (20) secondary schools which were purposively selected based on availability of LMS facilities.

The instrument for this study, designed by the researchers, was tagged “Challenges faced by Secondary School Teachers in Adopting Learning Management System for Assessment in

Kwara state, Nigeria". The questionnaire contains four major sections which are sections A, B, C and D. Section A comprises information on respondents' bio-data, which include name of school, gender, academic qualification and year of teaching experience; section B contains challenges faced in adopting LMS for assessments; C contains perceived benefits of LMS adoption and section D contains suggested strategies for overcoming challenges. A four-point Likert scale was used to rate the degree of respondents' view on the items of the questionnaire, including Strongly Agree = 4, Agree =3, Disagree = 2 and Strongly Disagree = 1.

To ensure that the research instrument measures what it is intended to measure, the instrument was validated by four lecturers in the Department of Educational Technology, University of Ilorin, Ilorin. After proper scrutiny, the recommended corrections were made. The instrument was trial-tested on 20 secondary school teachers of Government Day Secondary School, Ilorin, Kwara State. The school involved in the trial testing was outside the intended sample location for the study. Twenty (20) copies of the questionnaire were administered during the trial testing. All the 20 copies of the questionnaire were properly filled and returned; thus, they were used for the reliability analysis. Cronbach's Alpha statistical instrument was used to determine the reliability of the instrument. The results were 0.96 on the challenges faced in adopting LMS for assessments; 0.82 on the perceived benefits of LMS adoption; and 0.88 on suggested strategies for overcoming challenges. All the results showed high internal consistencies of the items in the research instrument. In view of this, the instrument was considered to be reliable.

The sampled schools in Ilorin were visited with letter of introduction, and permission was sought and obtained from the school authorities. Copies of the questionnaire were distributed to the teachers. The researchers retrieved the copies of the questionnaire after the sampled teachers responded; data collected were subjected to statistical analysis. Ethical consideration was made in this study as respondents were not coerced to fill the questionnaire. The data collected for this study were analyzed using descriptive statistics of mean and standard deviation. Statistical Package for Social Sciences (SPSS) was used to carry out the data analysis.

From the instrument, respondents could only obtain a score between 1.00 – 4.00 for each item, on a Likert type scale. The generated data were analysed using mean scores, and with a benchmark of 2.50. Any score below 2.50 is regarded as rejected, while a score above 2.50 is regarded as accepted.

Presentation of results

Research question one: What challenges do secondary school teachers in Ilorin face in adopting learning management systems for assessments?

Table 1: Challenges faced in adopting LMS for assessments

S/N	Items	Mean	SD
1	I find the LMS platform easy to navigate and use for creating and managing assessments.	1.10	.60
2	I receive adequate technical support when I encounter issues with the LMS.	1.34	.65
3	I have received sufficient training to effectively use the LMS for assessments.	1.14	.62
	Grand mean	1.84	

Table 1 shows participants' responses on challenges faced in adopting LMS for assessments. All responses to the items in this section have a grand mean of 1.84, which indicates that the respondents reject the items and consider them as challenges they face. Therefore, the challenges faced by teachers in adopting LMS are insufficient training, and inadequate technical support. Similarly, the analysis indicated that teachers find LMS platforms difficult to navigate and use for managing assessment.

Research question two: What benefits do teachers perceive in using LMS for classroom assessments?

Table 2: Perceived benefits of LMS adoption

S/N	Items	Mean	SD
1	I believe the LMS improves the overall quality of assessments	3.44	.56
2	I feel confident in my ability to use the LMS for conducting assessments	3.29	.68
3	I think the LMS provides a fair and unbiased platform for students' assessments	3.20	.75
4	I perceive the LMS as a valuable tool for enhancing the assessment process	3.43	.69
5	I believe the LMS helps in accurately tracking and reporting students' performance	2.26	1.22
	Grand mean	3.12	

Table 2 shows participants' responses on perceived benefits of adopting LMS for assessments. All responses to the questions asked under this section have a grand mean of 3.12 which indicates acceptance or agreement. Therefore, the perceived benefits of LMS adoption are fair and unbiased platform for students' assessments, enhancement of assessment process, and improvement of overall quality of assessments.

Research question three: What strategies can be proposed to address the challenges faced by teachers in adopting LMS for assessments?

Table 3: Suggested strategies for overcoming challenges

S/N	Items	Mean	SD
1	Regular system update and maintenance can effectively reduce technical issues in LMS.	3.81	.75
2	Integrating LMS with other tools like Zoom, and Goggle Workspace would enhance its functionality.	4.00	.00
3	Providing technical supports would improve user satisfaction with LMS	3.81	.75
4	Offering training sessions to users on how to troubleshoot common technical issues would be beneficial	3.43	1.20
5	Improving the mobile compatibility of LMS would make it more accessible to users	3.62	1.02
	Grand mean	3.73	

Table 3 shows participants' responses on strategies for overcoming challenges faced in adopting LMS for assessments. All responses to the questions asked under this section have a grand mean of 3.73 which indicates agreement. Therefore, the suggested strategies for overcoming challenges of LMS are regular system update and maintenance, regular technical support, improving mobile compatibility of LMS and the integration of tools like zoom, and goggle workspace. Training on how to troubleshoot common technical issues was also identified as an effective strategy for overcoming the challenges encountered in the utilization of LMS.

Discussions of the findings

The findings of this study provide critical insights into the challenges, perceived benefits, and potential strategies for adopting Learning Management Systems (LMS) among secondary school teachers in Ilorin, Kwara State. The discussion contextualizes these results within the

broader literature and addresses the research questions, highlighting implications for policy, practice, and future research. The study identified significant challenges in LMS adoption, including difficulty navigating LMS platforms, inadequate technical support, and insufficient training. For instance, the low mean scores for technical support ($\bar{x}$=1.34) and training ($\bar{x}$=1.14) reflect systemic gaps in institutional preparedness, corroborating assertion that teacher capacity-building is pivotal for successful LMS adoption. These findings align with prior studies emphasizing that poor technical infrastructure and lack of training hinder technology integration in education (Al-Ajlan & Zedan, 2018).

Despite the challenges, teachers recognized LMS's benefits, including improved assessment quality ($\bar{x}$=3.44), and fair assessment platforms ($\bar{x}$=3.20). These results resonate with literature highlighting LMS's role in streamlining assessments and promoting transparency. The lower score for tracking performance ($\bar{x}$=2.26) may indicate underutilization of LMS analytics features, suggesting a need for advanced training to maximize its utility. Participants strongly endorsed regular system updates ($\bar{x}$=3.81), integration with tools like Zoom and Google Workspace ($\bar{x}$=4.00), technical support ($\bar{x}$=3.81), and mobile compatibility ($\bar{x}$=3.62). These strategies align with global best practices advocating for user-centred design and continuous support in educational technology. The emphasis on training for troubleshooting ($\bar{x}$=3.43) further underscores the need for ongoing professional development, for sustainable LMS integration.

This study highlights the complex interplay between challenges and opportunities in LMS adoption. While systemic barriers persist, teachers' recognition of LMS's benefits and their pragmatic strategies for improvement offer a roadmap for stakeholders. Therefore, by addressing technical, training, and equity gaps, schools can harness LMS's full potential to transform assessment practices in Nigerian secondary education.

Conclusion

The study concluded that LMS was not available to majority of the respondents. The integration of LMS in secondary schools is not merely a technological shift but cultural and systematic type. Therefore, by addressing barriers through collaboration, secondary schools can empower teachers to use LMS effectively, ensuring assessments are fair, efficient and align with the aims and objectives or goals of the educational system.

Recommendations

On the bases of the findings, the following recommendations were made:

1. Government, non-governmental organizations and school administrators should ensure that LMS tools are made available to all secondary school teachers in Nigeria, with well-equipped LMS resources centres.
2. School administrators in secondary schools should ensure that teachers integrate and utilize the available LMS tools in the teaching/learning process.
3. Teachers should be sponsored to attend seminars and workshops, to enhance their integrating LMS tools into the teaching/learning process.

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