Examining the Relationship Between Lecturers' Self-Efficacy and Their Attitudes Toward the Use of Learning Management Systems (LMS) in Teaching in Universities in Rivers State, Nigeria

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ABSTRACT

Learning management systems (LMS) emerged because of the advancements in information technology, providing educational institutions with an extensive number of new opportunities for teaching and learning (T&L). The LMS's stated goal is to combine the finest of both the traditional classroom setting with the technology advancements that learners as well as instructors have come to expect from the twenty-first century. Acceptance and utilisation of LMS platforms in the classroom are heavily influenced by lecturers' views towards technology. Despite the benefits of LMS in T&L, there is a sense of reluctance among lecturers to use it. Considering the widespread usage of an LMS to support T&L in many educational institutions, the current study examined the relationship between lecturers' self-efficacy and their attitudes toward the use of LMS in teaching. A stratified sampling technique was chosen to select 341 lecturers in the two universities in Rivers State. A researcher-designed questionnaire was used to obtain information from the participants. The research question was answered using Pearson Product Moment Correlation, while the hypothesis was tested using Pearson Product Moment Correlation. The finding revealed a strong positive relationship between lecturers' self-efficacy and attitude in the use of LMS in teaching.

Keywords: Self-Efficacy; Attitude; Learning Management System; Higher Education; Learning

Introduction

Higher education has relied on learning management systems (LMS) to improve teaching and learning, as LMS platforms is capable of enhancing conventional teaching and learning (T&L) in educational technology. LMSs have eliminated conventional learning places and issues. Most colleges worldwide utilise LMS like Blackboard, Moodle, Desire2Learn, Google Classroom, TalentLMS, Canvas LMS, eCoach, A Tutor, Schoology, and Edmodo in their T&L (Almogren, 2022). These systems allow lecturers to provide knowledge in real time and let students learn at their own speed. This method has enhanced education to meet 21st-century goals. The Nigerian government's national policy for information technology aims to ensure technology resources are available for quality and efficient national development and integration in conventional education and training. However, due to the poor deployment of LMSs in many universities in developing nations, particularly in Nigeria, a large number of educational institutions were compelled to entirely suspend operations in reaction to the COVID-19 epidemic (Aiyedun & Ogunode, 2020). According to research findings, obstacles with LMS implementation in Nigerian education include insufficient technological training for lecturers, few PCs, and insufficient finances (Okolie, Igwe & Elom, 2019; Oguguo et al., 2021). While Nwagwu (2020) stated that lecturers saw online learning as an extra component, they were unable to integrate it into their existing traditional teaching and lacked the time to do so.

Literature Review

The implementation of learning management systems in educational institutions has brought about a profound transformation in the way that teaching and learning are carried out. This study revealed the function that LMSs play in improving pedagogical approaches, as well as their influence on the facilitation of lectures and the involvement of students. In order to either support or contradict the principles of LMSs (LMS), this study conducted an empirical evaluation of the relevant literature on LMSs, self-efficacy and attitude in the use of LMS in teaching.

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Learning Management System

The adoption of LMS has significantly bridged the gap created by geographical barriers and the limitations of traditional education. According to Ali (2016), LMS has transformed teaching and learning into a more practical, engaging, and innovative experience for educational institutions. LMS platforms are regarded as valuable tools for lecturers, particularly in efficiently grading assignments and quizzes for large student populations (Snoussi, 2019). The LMS serves as a crucial support mechanism for enhancing virtual education delivery, particularly distance learning, by minimising the challenges associated with physical separation (Burney, 2021; Noreen, 2020). As a web-based platform, the LMS plays a pivotal role in connecting lecturers, students, and educational content in a structured and standardised manner (Ugwoke et al., 2019). It remains an essential tool for online teaching and learning (T&L), with its effectiveness dependent on both lecturers' and students' acceptance and utilisation (Sabharwal et al., 2019). With the increasing shift towards online education, LMS has emerged as a leading learning technology, establishing itself as the foundation of modern academic environments (Ngafeeson & Gautam, 2021). Notably, Blackboard LMS is among the most widely adopted platforms in educational institutions worldwide (Al-Mamary, 2022). A broad variety of research has been conducted as the LMS adoption rate has increased in higher education in other parts of the world, which has been a challenge in Nigerian universities (Awolesi, 2018). According to research findings, the implementation of proficient and productive LMS emerged as a key determinant in facilitating the uninterrupted provision of education in developed countries during the COVID-19 pandemic (Ziraba et al., 2020; Cavus et al., 2021). The adoption of effective and efficient LMS has been identified as a crucial factor in enabling the continuous delivery of education in developed nations amidst the COVID-19 crisis, as evidenced by research conducted by Ziraba et al. (2020) and Cavus et al. (2021).

Empirical studies have identified technical challenges, access to technology, lack of training on LMS use, instructional challenges, e-content development, and geographical distribution as other factors hindering lecturers' use of LMS in T&L (Noreen, 2020; Dlalisa & Govender, 2020). Dlalisa and Govender (2020) examined the acceptance and usage of an approved LMS among academics at the University of Technology, South Africa, with a sample size of 111 lecturers using a semi-structured interview. The findings revealed that only a few academics use LMS for student-centred learning activities as a result of computer skills level and LMS experience. Dlalisa and Govender's study on university lecturers' adoption of LMS identifies practical barriers, with a primary focus on computer skills and LMS experience. However, the study's geographical focus is limited to South Africa; therefore, its applicability to Nigeria is uncertain. Some studies collectively underscore the potential and challenges of LMS adoption in Nigerian universities. While LMS integration enhances engagement and academic performance, barriers such as infrastructure gaps, lack of institutional support, and digital literacy limitations remain significant concerns (Onyam & Chukwu, 2022; and David-West, 2022). Adeleke (2021) identified the barriers to the effective use of LMS in Nigerian technical colleges. The study identified lack of technical expertise, inadequate infrastructure, and resistance to change as the primary barriers to effective LMS use in technical colleges. Adeoye and Akinyele (2022) investigated the factors that influence the adoption of LMS by secondary school teachers in Nigeria. The findings revealed that ease of use, perceived usefulness, and technical support were all significant factors influencing LMS uptake among teachers.

Self-Efficacy

Self-efficacy is centred on the individual's capacity to engage in a particular skill when using innovative technologies. Self-efficacy refers to the ability to utilise an object that impacts an individual's thoughts, actions, and motivations, thereby influencing their decision to engage in or avoid specific behaviours (Bandura, 1977). Self-efficacy is an important variable used to determine the use of LMSs in teaching and learning. And this variable has been found to influence technological innovation and that there is a relationship for the acceptance of innovation (Otieno, Liyala, Odongo, & Abeka, 2016; Wedlock & Trahan, 2019). Self-efficacy is rooted in Bandura's (1977) social cognitive theory. Bandura stated that the basic principle of self-efficacy is that people are more likely to engage in activities to which they can perform higher than engage in those things they do not, for which training is required. This shows that information literacy abilities drive individuals to utilise information resources. Thus, a lack of proficiency will result in a loss of excitement on the part of the lecturers, which will have a negative effect on efforts to utilise information resources.

The dimensions of self-efficacy include task self-efficacy, coping self-efficacy, and scheduling self-efficacy. Task self-efficacy is the confidence a person has in their ability to execute particular behaviours necessary to produce desired

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results in a given domain. In educational settings, task self-efficacy influences how teachers and lecturers approach instructional responsibilities, including the use of technology such as Learning Management Systems (LMS). On the other hand, coping self-efficacy refers to confidence in one's ability to manage challenges, such as technical issues or students' disengagement, whereas scheduling self-efficacy is the ability to plan and organise time effectively for LMS usage (Bandura, 1997).

Lecturers are the key factors in any educational setting whose self-efficacy has far-reaching implications in the attainment of educational objectives and goals. In the study of Al-Azawei (2019), it was revealed that self-efficacy has a stronger impact on the intention to use LMSs in teaching among men than among women. Successful incorporation of LMS in teaching can only be guaranteed through adequate exposure to needed areas. Other research findings revealed that issues regarding insufficient training of lecturers in technology, limited computers, and inadequate funds are the problems plaguing LMS adoption in education in Nigeria (Okolie, Igwe & Elom, 2019; Oguguo et al., 2021). Onwubiko (2022) investigated teachers' self-efficacy in incorporating ICT into pedagogy revealed a positive relationship between self-efficacy and ICT integration. The high level of self-efficacy in LMS is essential for improving the quality of education (Coban & Atasoy, 2019). Williams and Thompson (2020) also found a significant relationship between lecturers' perceived technological competence and their LMS use. Shahzadi and Ali (2022) explored the relationship between task self-efficacy in LMS tasks and teacher engagement in online learning environments using regression analysis. The findings showed that higher teacher confidence in performing specific LMS tasks such as managing discussion forums and virtual classrooms significantly increased their use of motivational regulation strategies, including goal-orientated and interest-enhanced methods. Similarly, Inoncillo (2024) examined the role of coping self-efficacy in teachers' confidence in managing LMS challenges, such as technical glitches or student disengagement in relation to LMS effectiveness and work engagement among higher education faculty using regression analysis. Findings showed that higher coping self-efficacy significantly predicted perceived LMS effectiveness and, together with task self-efficacy, accounted for a substantial portion of variance in work engagement. Furthermore, Zhang et al. (2023) examined the relationship between scheduling self-efficacy and successful time management among pre-service teachers enrolled in online and blended educational technology courses using ANCOVA. Findings showed that higher scheduling self-efficacy was significantly associated with greater use of time management strategies, particularly among online learners, which in turn supported more consistent and effective LMS engagement. However, Lee and Park (2022) found that lecturers' self-efficacy in online teaching positively influenced LMS usage, with experience enhancing confidence. Using SEM, they analysed data from 450 distance learning instructors, ensuring statistical power and generalisability through systematic sampling. The study highlights self-efficacy's role in LMS adoption but neglects external factors like institutional support, training, and technical infrastructure. These overlooked variables could significantly impact LMS usage and instructional effectiveness. A more comprehensive approach is needed to fully understand online teaching dynamics.

Element of Self-Efficacy

The elements of self-efficacy, according to Bandura (2006), include mastery experience, vicarious experience, verbal persuasion, emotional and physiological state, and imaginal experience, as shown in Figure 1.

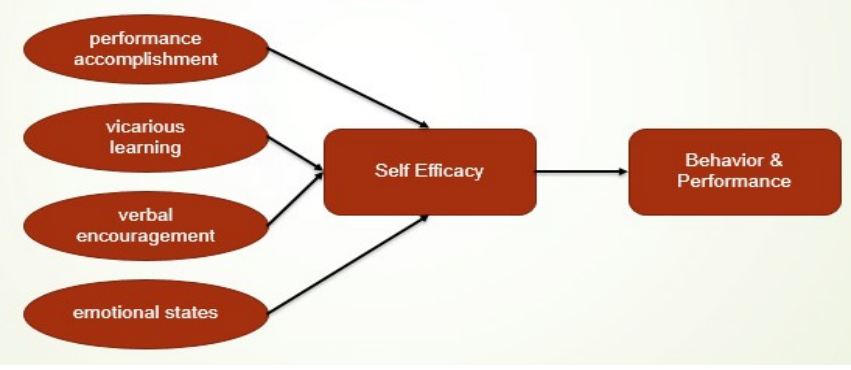

Figure 1. Elements of Self-Efficacy (Bandura, 2006)

Bandura (2006) explains the element of self-efficacy as follows:

- **Performance Accomplishment (Mastery Experiences):** Mastery experiences are essential for self-efficacy. The most effective strategy to increase self-efficacy is to gain mastery experience. Success in mastering a task or controlling an environment boosts self-confidence, while failure destroys it.
- **Vicarious Experiences:** Vicarious experience may boost lecturers' self-efficacy when they engage in a task others were successful at. Vicarious experience can be explained as, "If they can do it, I can do it as well." For instance, seeing coworkers succeed boosts our self-efficacy. People lose self-efficacy when they fail.
- **Verbal Encouragement or Persuasiveness:** Verbal persuasion occurs when other people believe in someone's ability to complete a specific goal, either through direct support or discouragement. Persuasion is usually required to achieve desirable organisational goals. However, the effectiveness of the persuasion would be determined by the leader's influence within the organisation.
- **Emotional & Physiological States:** Bandura opines that emotion dictates the self-efficacy level of an individual. Physiological arousal is associated with an individual's negative feeling that they expect to fail at a particular task and is likely to experience some emotional challenges. The emotions vary from individual to individual, but if they persist, they may become associated with poor performance.

Attitude

Studies have revealed how attitudes influence the use of technology such as the LMS in teaching and learning. Bandura (1994) stated that people's beliefs influence their actions and motivate them to attempt or restrain from certain behaviours. Lecturers' attitudes toward computers play an important role in the acceptance and use of LMS platforms in teaching. The successful use of computer-related activities in the teaching and learning process is a function of the attitudes of lecturers and their readiness to accept the technology (Awofala et al., 2019). Ademola and Ibironke's (2022) research examines the attitudes of Nigerian lecturers towards the use of LMS for collaborative research, offering important insights into the role of technology in enhancing academic collaboration. The research comprised 200 lecturers from seven Nigerian universities participating in collaborative research projects. The study indicated that lecturers expressed a generally favourable attitude towards the use of LMS for collaborative research, particularly in the areas of resource sharing, data management, and communication with research teams. While the study is methodologically robust, it exhibits limitations regarding generalisability, institutional analysis, and disciplinary scope. The study focused heavily on the technical aspects of LMS for research collaboration, but institutional support, policy issues, and the specific needs of different academic disciplines (e.g., humanities vs. STEM fields) are not thoroughly explored. These factors could significantly influence LMS adoption and effectiveness for research.

Al-Senaidi et al. (2019) study revealed a positive attitude towards LMS, with significant differences in usage across age groups. Older teachers showed less enthusiasm for adopting LMS. Ayub et al. (2019) found that positive attitudes towards LMS enhance learning outcomes; however, technology-driven education continues to face challenges in comparison to traditional face-to-face learning. Learning engagement is higher for frequent LMS users. Students like LMS for cooperation and extra content. Ayub et al. (2019) present a richer statistical examination of how LMS use affects learning outcomes but do not examine LMS resistance. Wichadee's (2015) findings revealed that lecturers' attitudes towards LMSs are not correlated to the actual use of LMS. This stressed that a particular competence besides the ordinary technology competence is essential from lecturers because the focus of their work is in education and teaching. Wichadee's (2015) findings present a counterintuitive perspective on LMS adoption, arguing that lecturers' attitudes toward LMS do not necessarily predict actual usage. This suggests that positive perceptions alone are not sufficient for LMS integration and that a specific competence beyond general technological skills is required. The study's key insight that attitudes do not directly predict LMS use is valuable for shaping future faculty training and technology adoption strategies. It shifts the focus from general technology competence to the pedagogical application of LMS, which is a more critical factor for effective digital teaching. The study did not specify whether the findings apply across different disciplines, institutions, or regions. The study equally failed to fully explore the impact of institutional policies, access to technology, and workload variations.

Element of Attitude

The elements of attitude, according to Eagly and Chaiken (1993), include the cognitive component, the affective component, and the behavioural component, as shown in Figure 2.

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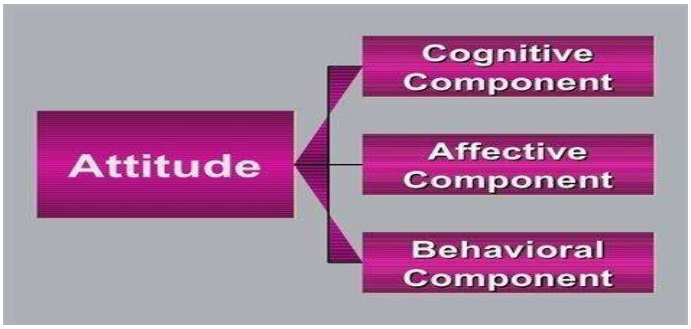

Figure 2. Element of Attitude (Eagly & Chaiken, 1993)

Eagly and Chaiken (1993) explain the element of attitude as follows:

- **Cognitive Component:** This refers to the beliefs, thoughts, and attributes that are associated with a certain thing. It describes the aspect of an individual's attitude that aligns with their general knowledge. Typically, these come to light in generalities or stereotypes, such as 'all LMS platforms are fantastic', 'using LMS in T&L waste time, etc.
- **Affective Component:** This is the emotional or feeling segment of an attitude. It is related to the statement that affects another person. It addresses the feelings or emotions that surface, such as fear or hate. For example, lecturers might like the LMS platform for its positive impact on T&L or dislike it due to its complexity.
- **Behaviour Component:** This consists of a person's tendencies to behave in a particular way toward an object. It refers to the aspect of attitude that indicates a person's intentions, whether in the short term or long term. Using the above example, the behavioural attitude may be 'lecturers cannot wait to learn the LMS use,' or 'lecturers better keep those LMS platforms out of their T&L, etc.

The purpose of the study is to explore the relationship between lecturers' task, coping, scheduling self-efficacy and their attitude towards teaching using learning management systems in universities in Rivers State. This study aims to address the following research questions to explore the key aspects of the problem under investigation.

1. What is the relationship between lecturers' task self-efficacy and attitude in the use of LMS in teaching?
2. What is the relationship between lecturers' coping self-efficacy and attitude in the use of LMS in teaching?
3. What is the relationship between lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching?

Based on the research questions, the following hypothesis is proposed to be tested in this study.

1. There is no relationship between lecturer's task self-efficacy and attitude in the use of LMS in teaching.
2. There is no relationship between lecturer's coping self-efficacy and attitude in the use of LMS in teaching.
3. There is no relationship between lecturer's scheduling self-efficacy and attitude in the use of LMS in teaching.

Methodology

The methodology of this study was a quantitative method. The study adopted Ex-post Facto design, also referred to as causal-comparative design. The population of this study consisted of all lecturers in two universities in Rivers State: Ignatius Ajuru University of Education, Port Harcourt (state-owned university), and University of Port Harcourt, Choba (federal university). However, the population of lecturers in the two universities in Rivers State as of the time of this study was 2107. A total number of 341 lecturers participated in the study using a stratified random sampling technique.

The study was carried out in two phases. Phase one comprised the early stage of the research, which involved educational technologist professionals scrutinising the instrument before administering it to the respondents. A pilot study was first conducted by the researcher, and a Cronbach Alpha was used to determine its reliability coefficient, which yielded 0.73 for lecturers' self-efficacy and 0.7 for lecturers' attitude in teaching using LMS, respectively. This is in line with an acceptable value of 0.7 according to Nwankwo (2013). The collected data were analysed using both descriptive and inferential statistics. The research question and hypothesis were answered using Pearson Product

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Moment Correlation. The statistical assumptions were tested for linearity, which met the necessary conditions for conducting PPMC analyses. Data was subjected to analysis by Statistical Package for Social Sciences (SPSS) version 20.0 at 0.05 level of significance.

Data Analysis and Finding

This section presents the results of the data analysis conducted to address the research questions of the study.

RQ1: What is the relationship between lecturers' task self-efficacy and attitude in the use of LMS in teaching?

Table 1. Pearson Product Moment Correlation between lecturers' task self-efficacy and attitude in the use of LMS in teaching

Variables	N	r	Remark
Lecturer's task self-efficacy Attitude	341	.743	Very Strong Positive Relationship

From the result in Table 1, it is revealed that r-value is .743. This implies that there is a very strong positive relationship between lecturers' task self-efficacy and attitude in the use of LMS in teaching. This means that as lecturers' task self-efficacy increases, attitude in the use of LMS in teaching also increases very strongly.

HO1: There is no relationship between lecturers' task self-efficacy and attitude in the use of LMS in teaching.

Table 2. Result of Pearson Product Moment Correlation for lecturers' task self-efficacy and attitude in the use of LMS in teaching

Variables	N	p	Sig level	Remark
Lecturer's task self-efficacy Attitude	341	.000	.05	Sig. Ho1 is rejected

df = 339

From the result in Table 2, it is revealed that the p-value of .000 is less than .05 alpha level of significance with 339 degrees of freedom. This shows that the formulated null hypothesis is rejected while the alternative hypothesis is retained. Therefore, there is a significant relationship between lecturers' task self-efficacy and attitude in the use of LMS in teaching.

RQ2: What is the relationship between lecturers' coping self-efficacy and attitude in the use of LMS in teaching?

Table 3. Pearson Product Moment Correlation between lecturers' coping self-efficacy and attitude in the use of LMS in teaching

Variables	N	r	Remark
Lecturer's coping self-efficacy Attitude	341	.776	Very Strong Positive Relationship

Table 3 presents the result of the Pearson Product Moment Correlation analysis conducted to determine the relationship between lecturers' coping self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching. The correlation coefficient **(r)** is .776, which indicates **a** very strong positive relationship between the two variables. This means that as lecturers' coping self-efficacy increases, their attitude towards the use of LMS in teaching also becomes more positive.

HO2: There is no relationship between lecturers' coping self-efficacy and attitude in the use of LMS in teaching.

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Table 4. Result of Pearson Product Moment Correlation for lecturers' coping self-efficacy and attitude in the use of LMS in teaching

Variables	N	p	Sig level	Remark
Lecturer's coping self-efficacy Attitude	341	.001	.05	Sig. Ho2 is rejected.

df = 339

Table 4 presents the result of the Pearson Product Moment Correlation test conducted to examine the significance of the relationship between lecturers' coping self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching. With a sample size of 341 and degrees of freedom of 339, the analysis yielded a p-value of .001, which is less than the significance level of .05. This indicates that the relationship between the two variables is statistically significant. As a result, the null hypothesis (HO2), which posited that there is no significant relationship between coping self-efficacy and attitude in LMS usage, is rejected. Therefore, there is a significant relationship between lecturers' coping self-efficacy and attitude in the use of LMS in teaching.

RQ3: What is the relationship between lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching?

Table 5. Pearson Product Moment Correlation between lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching

Variables	N	r	Remark
Lecturer's scheduling self-efficacy Attitude	341	.792	Very Strong Positive Relationship

Table 5 presents the Pearson Product Moment Correlation result showing the relationship between lecturers' scheduling self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching. The correlation coefficient **(r)** is .792, which indicates a very strong positive relationship between the two variables. This means that as lecturers' confidence in their ability to plan, manage, and allocate time effectively for LMS-related tasks increases, their attitude toward the use of LMS in teaching also improves significantly.

HO3: There is no relationship between lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching.

Table 6. Result of Pearson Product Moment Correlation for lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching

Variables	N	p	Sig level	Remark
Lecturer's scheduling self-efficacy Attitude	341	.000	.05	Sig. Ho2 is rejected

df = 339

Table 6 shows the result of the Pearson Product Moment Correlation test conducted to determine the significance of the relationship between lecturers' scheduling self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching. With a sample size of 341 and degrees of freedom of 339, the analysis yielded a p-value of .000, which is less than the significance level of .05. This indicates that the relationship between the two variables is statistically significant. Consequently, the null hypothesis (HO2), which stated that there is no significant relationship between scheduling self-efficacy and attitude toward LMS use, is rejected**.** Therefore, there is a significant relationship between lecturers' scheduling self-efficacy and attitude in the use of LMS in teaching.

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Discussions

The finding that there is a significant positive relationship between lecturers' task self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching in universities in Rivers State, Nigeria, highlights the crucial role of personal competence and confidence in driving technology adoption in higher education. This significant positive relationship implies that as lecturers' confidence in their ability to carry out these tasks increases, so does their willingness and enthusiasm to use LMS tools in their instructional practices. The result suggests that lecturers who feel capable of engaging with LMS features are more likely to approach the system with a positive mindset, integrate it consistently into their teaching routine, and explore its functionalities with minimal resistance. In the context of public universities in Rivers State, this finding may be linked to the increasing institutional focus on digital transformation and the provision of hands-on training programmes aimed at enhancing lecturers' task-specific competencies. Therefore, fostering task self-efficacy through practical training, technical support, and exposure to real-world LMS applications is essential for promoting a positive disposition toward LMS usage and ensuring successful technology integration in university teaching. This present finding agrees with Shahzadi and Ali (2022) who in their study explored the relationship between task self-efficacy in LMS tasks and teacher engagement in online learning environments using regression analysis. Findings showed that higher teacher confidence in performing specific LMS tasks such as managing discussion forums and virtual classrooms significantly increased their use of motivational regulation strategies, including goal oriented and interest-enhanced methods.

The finding that there is a significant positive relationship between lecturers' coping self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching in universities in Rivers State, Nigeria, underscores the importance of psychological resilience and problem-solving confidence in the adoption of educational technologies. Coping self-efficacy refers to a lecturer's belief in their ability to effectively manage challenges, setbacks, and stressful situations associated with the use of LMS such as system failures, internet issues, student disengagement, or unfamiliar software features. This significant positive relationship indicates that lecturers who believe they can handle these difficulties are more likely to develop and maintain a positive attitude toward using LMS in their teaching. Such lecturers are not only more adaptive to digital demands but are also more likely to persist in the face of technological obstacles, demonstrating greater initiative and motivation in integrating LMS tools into their pedagogy. In the context of public universities in Rivers State, the result may reflect the outcomes of supportive institutional policies, peer mentoring, and training interventions designed to prepare lecturers for the dynamic challenges of digital instruction. Therefore, strengthening coping self-efficacy through continuous training, access to technical support, and stress management resources is essential for enhancing lecturers' attitudes and ensuring effective LMS utilisation across higher education institutions. This present finding aligns with Inoncillo (2024) who in their study, examined the role of coping self-efficacy on teachers' confidence in managing LMS challenges such as technical glitches or student disengagement in relation to LMS effectiveness and work engagement among higher education faculty using regression analysis. Findings showed that higher coping self-efficacy significantly predicted perceived LMS effectiveness and, together with task self-efficacy, accounted for a substantial portion of variance in work engagement.

The finding that there is a significant positive relationship between lecturers' scheduling self-efficacy and their attitude toward the use of Learning Management Systems (LMS) in teaching in universities in Rivers State, Nigeria, emphasises the vital role of time management confidence in promoting the adoption of digital instructional tools. The significance of this positive relationship suggests that lecturers who are confident in managing their teaching schedules and integrating LMS activities within their workload are more likely to develop favourable attitudes toward the use of such technologies in the classroom. These lecturers tend to approach LMS with greater consistency and enthusiasm, perceiving it not as an added burden but as a manageable and beneficial instructional tool. In the context of public universities in Rivers State, this result may reflect the impact of institutional efforts to provide time management training, digital planning tools, and workload adjustments that support lecturers in incorporating LMS into their teaching. Consequently, enhancing scheduling self-efficacy through training on effective time use, digital planning strategies, and institutional support structures is essential for improving lecturers' attitudes and ensuring sustained and effective use of LMS in university education. This finding is consistent with Zhang et al. (2023) who in their own study investigated the relationship between scheduling self-efficacy and successful time management among pre-service teachers enrolled in online and blended educational technology courses using ANCOVA. Findings showed that

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higher scheduling self-efficacy was significantly associated with greater use of time management strategies, particularly among online learners, which in turn supported more consistent and effective LMS engagement.

Conclusion

Based on the findings of this study, it can be concluded that lecturers' self-efficacy (task, coping and scheduling) plays a critical role in enhancing their attitude towards the use of LMS in teaching. A strong positive relationship between lecturers' self-efficacy and their attitude toward LMS usage was observed, indicating that as lecturers' confidence in their teaching abilities increases, so does their favourable attitude towards utilising LMS platforms.

Recommendations

Universities should design professional development programmes that focus on enhancing lecturers' self-efficacy and attitude. Training should include practical, hands-on experiences with LMS tools and foster a supportive environment where lecturers can build confidence in using technology. This can lead to more positive attitudes toward LMS and its integration into lecturing practices.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Appendices

Appendix A

University Lecturers' Self-Efficacy towards Teaching Using LMS

(V.E Very Effective, E Effective, I Ineffective and V.I Very Ineffective)

S/N	Questionnaire Items	V.E	E	I	V.I
1	How effective are you in exploring new technologies or updates within the learning management system to enhance your teaching methods?				
2	How can you rate your strength with features of the learning management system such as creating assignments, posting course materials, engaging students in discussions?				
3	How effective are you in customising or personalising the learning management system to suit your teaching style?				
4	What is your level of familiarity with the interface/navigation of our current learning management system?				
5	How would you rate your ability to integrate external resources (websites, articles, etc.) seamlessly into the learning management system?				

6	Do you feel adequately supported in terms of resources or training to use the learning management system effectively?				
7	Do you feel the current training/support offered adequately prepares you for utilizing advanced features of the learning management system?				
8	How confident are you in ensuring data privacy and security when utilising the learning management system for your courses?				
9	How much has your experience influenced your perception of the LMS's role in fostering student engagement and participation?				
10	How would you rate your willingness to experiment with different tools or applications integrated into the learning management system for enhancing student learning?				
11	How receptive are you to feedback from students regarding the learning management system's usability in your courses?				
12	To what extent does your experience contribute to your confidence in managing and organising course materials using the LMS?				
13	How would you rate your comfort level in adapting to changes or updates in the learning management system interface or functionalities?				
15	How can you rate your comfort level in facilitating student engagement through interactive features of the learning management system (quizzes, discussion forums, etc.)?				
16	What is your level of proficiency in incorporating multimedia elements (videos, images, etc.) into your courses through the learning management system?				
17	To what extent do you believe your experience influences your ability to navigate and employ the features of the LMS?				
18	How has your years of experience impacted your ability to adapt and innovate while using the LMS for teaching purposes?				
19	What is your level of confidence in the ability of a learning management system to facilitate better organisation and management of course materials?				
20	How effective does the training or support you've received regarding the use of technology for teaching purposes impacted your confidence in using these tools?				

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Appendix B

University Lecturers' Attitude towards Teaching Using LMS
(SA Strongly Agree, A Agree, SD Strongly Disagree, and D Disagree)

S/N	Item	SA	A	SD	D
1.	I trust the learning management system's role in promoting student-centred learning experiences compared to traditional teaching methods.				
2.	The use of a learning management system aligns with my efforts to promote active learning and student engagement in my courses.				
3.	I believe in the adaptability of the learning management system to accommodate different course formats or teaching styles.				
4.	I like adapting my teaching methods to leverage the full potential of the learning management system very high.				
5	Learning management system in accommodating diverse learning styles among my students				
6.	My willingness in utilising the learning management system to personalise learning experiences and cater to individual student needs is effective.				
7.	I trust the ability of learning management system to streamline assessment and grading processes compared to traditional methods.				
8.	My likeness in using the learning management system evolved positively due to its impact on my teaching.				
9.	I am willing to continually explore and integrate new features or tools within the learning management system.				
10.	I believe in the learning management system's impact on fostering a sense of community and collaboration among students				
11.	I am likely to recommend the use of the learning management system to my colleagues for their teaching purposes.				
12.	I subscribe to the fact that learning management system can enhance the teaching-learning process.				
13.	I am satisfied with the support and resources available to assist me in effectively utilising the learning management system.				
14.	I am enthusiastic about utilising the learning management system to improve students' engagement and interaction in my courses.				

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15.	Using the learning management system aligns with my teaching philosophy or educational goals.				
16.	I believe in the potential of a learning management system to foster a more flexible and accessible learning environment for students.				
17.	Using a learning management system affects the overall quality of my teaching.				
18.	I believe the learning management system is a tool for promoting self-directed learning among students.				
19	I believe my experience influences my attitude to navigate and employ the features of the LMS.				
20.	My willingness to explore innovative teaching methods and approaches made possible by the learning management system is positive.				

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