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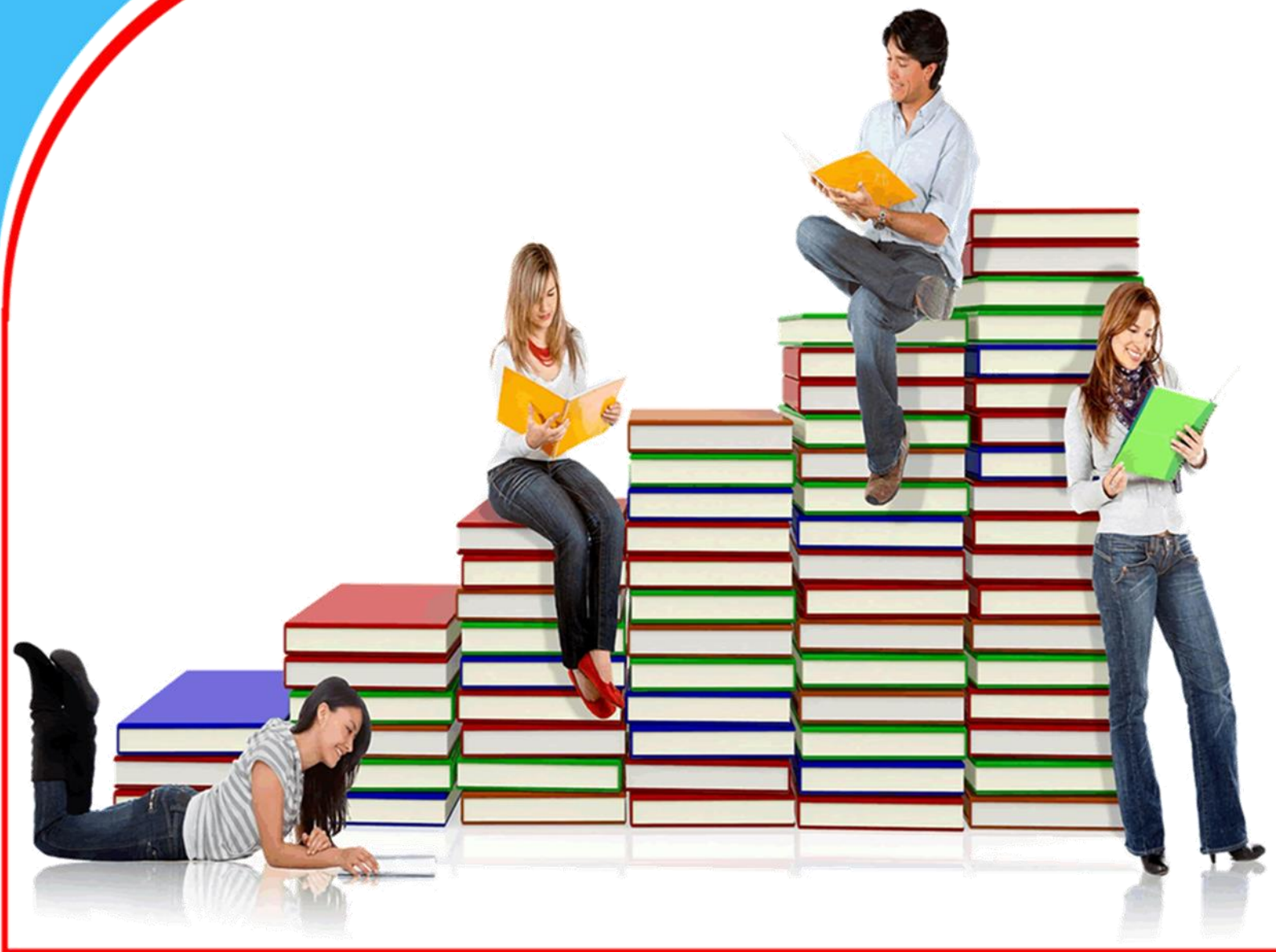

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How Feedback Mechanisms within the Learning Management Systems Contribute to Curriculum Implementation

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Abstract

Purpose: The purpose of this study was to analyse how feedback mechanisms within Learning Management Systems (LMSs) contribute to curriculum implementation in higher learning institutions, with specific reference to Kyambogo University. The study examined the extent to which LMS-enabled feedback mechanisms support interaction, learner engagement, collaboration, assessment, and effective curriculum delivery in digitally mediated learning environments. The study was grounded in Connectivism Theory and Transactional Distance Theory, which emphasize networked learning, dialogue, interaction, and the reduction of psychological distance between learners and instructors.

Materials and Methods: The study adopted a parallel convergent mixed methods research design to generate both quantitative and qualitative data and to compare areas of convergence and divergence in the findings. A sample of 185 respondents comprising administrators, lecturers, and students was purposively selected from the Faculties of Engineering and Special Needs Education at Kyambogo University. Quantitative data were analysed using descriptive statistics, Pearson correlation, and regression analysis with the aid of SPSS, while qualitative data were analysed thematically to capture participants' experiences and perceptions regarding LMS feedback mechanisms.

Findings: The findings revealed that respondents strongly perceived LMS feedback mechanisms as effective in facilitating timely, accessible, reliable, and interactive communication, with all feedback-related items recording mean scores above 3.90. Correlation analysis established a statistically significant moderate positive relationship between feedback mechanisms and curriculum implementation ($r = .346$, $p < .01$). Regression analysis further showed that feedback mechanisms significantly predicted curriculum implementation ($\beta = .383$, $p < .001$), accounting for 14.6% of the variance ($R^2 = .146$). Qualitative findings corroborated the quantitative results by demonstrating that automated, peer, and interactive feedback mechanisms enhanced learner motivation, self-assessment, collaboration, and academic discipline. However, infrastructural limitations, digital literacy gaps, and accessibility challenges constrained effective LMS utilization.

Implications to Theory, Practice and Policy: The study contributes to Connectivism Theory and Transactional Distance Theory by demonstrating that LMS feedback mechanisms strengthen interaction, collaboration, and learner autonomy within digital learning spaces. Practically, the findings underscore the importance of investing in robust LMS infrastructure, continuous professional development, and inclusive digital learning strategies to enhance curriculum implementation. From a policy perspective, higher learning institutions and education policymakers should prioritize policies that support digital infrastructure development, accessibility, and sustained capacity building for lecturers and students to maximize the effectiveness of LMS-based feedback systems.

Keywords: *Learning Management Systems, Feedback Mechanisms, Curriculum Implementation, Higher Education, Digital Pedagogy*

JEL Classification: *I23; O33; D83; M15; A20*

INTRODUCTION

In the context of a Learning Management System (LMS), feedback mechanisms refer to the structured processes through which information, evaluations, comments, guidance, and responses are communicated to learners regarding their academic performance, participation, and progress toward the achievement of learning outcomes. Feedback is a critical component of teaching and learning because it enables both learners and instructors to monitor progress, identify learning gaps, and make necessary adjustments to improve educational outcomes (Wabwile, 2024; Uloh-Bethels, 2024). Within LMS environments, feedback operates through interconnected feedback loops that may be synchronous, such as live chats, virtual classroom interactions, and instant messaging; asynchronous, including discussion forums, assignment comments, emails, and peer reviews; and automated diagnostic feedback, generated through quizzes, self-assessment tools, progress tracking systems, and automated grading features. Together, these mechanisms provide learners with constructive criticism, encouragement, guidance, motivational support, and performance-related information that facilitate continuous improvement and support curriculum implementation.

Kyambogo University provides a suitable context for examining LMS-enabled feedback mechanisms because it is one of Uganda's largest public universities, characterized by a diverse student population, large enrolments, and increasing adoption of digital learning technologies. The university has invested in LMS-supported teaching and learning to facilitate blended and online instructional delivery, particularly in response to the growing demand for flexible and technology-enhanced education. However, like many higher learning institutions in developing contexts, the university operates within structural realities that include varying levels of digital literacy, infrastructure limitations, internet connectivity challenges, and unequal access to technological resources. These conditions make Kyambogo University an appropriate case study for investigating how LMS feedback mechanisms influence curriculum implementation in a digitally mediated learning environment.

In higher learning institutions, the increasing adoption of Learning Management Systems has transformed the way teaching, learning, and curriculum implementation are conducted. LMS platforms facilitate continuous interaction between lecturers and learners by enabling timely communication, online assessment, collaborative learning, and instant feedback. Through features such as discussion forums, quizzes, assignment comments, peer reviews, and automated grading systems, LMSs provide opportunities for interactive and learner-centred pedagogical practices. These digital feedback processes contribute significantly to improving learner engagement, academic discipline, self-assessment, and participation in the learning process.

The growing demand for flexible and technology-supported education has made feedback mechanisms within LMSs increasingly important in enhancing curriculum implementation. Effective curriculum implementation requires continuous monitoring of learners' progress, clarification of learning expectations, and prompt support to address learning gaps. Traditional face-to-face feedback methods are often constrained by time, limited interaction, and large class sizes, making it difficult for lecturers to provide individualized support to learners. Consequently, LMS-enabled feedback mechanisms have emerged as a more efficient and scalable approach for facilitating communication and supporting instructional delivery in higher education institutions.

Despite the potential benefits associated with LMS feedback mechanisms, many higher learning institutions continue to experience challenges related to infrastructure limitations, inadequate digital literacy, inconsistent internet connectivity, and accessibility barriers. These challenges affect the effective utilization of LMS platforms and may undermine the

contribution of feedback mechanisms to curriculum implementation. Therefore, there is a need to examine how feedback mechanisms within Learning Management Systems contribute to curriculum implementation in higher learning institutions. This study specifically focuses on Kyambogo University to establish the extent to which LMS-enabled feedback supports effective teaching and learning processes in a digitally mediated educational environment.

Problem Statement

The integration of Learning Management Systems (LMSs) in higher learning institutions has transformed teaching and learning by facilitating online communication, assessment, collaboration, and feedback between lecturers and learners. Feedback mechanisms embedded within LMS platforms are expected to support curriculum implementation by enabling timely academic guidance, monitoring learner progress, assessing achievement of learning outcomes, and providing corrective interventions throughout the learning process. Effective feedback ensures that learners acquire the knowledge, skills, competencies, and attitudes prescribed in the curriculum while enabling lecturers to evaluate whether instructional objectives have been achieved.

Despite these potential benefits, many higher learning institutions, including Kyambogo University, continue to experience challenges in the effective utilization of LMS feedback mechanisms. Delayed responses to learner submissions, limited lecturer-learner interaction, inadequate digital competencies, unreliable internet connectivity, and insufficient technological infrastructure often hinder the timely exchange of academic information. Consequently, learners may not receive prompt clarification on learning tasks, assessment results, or guidance necessary for improving their performance. This limits opportunities for continuous learning, self-correction, and mastery of course content.

The implications of ineffective LMS feedback extend beyond communication challenges to directly affect curriculum implementation. Delayed or inadequate feedback may result in learners progressing through courses without fully understanding key concepts and competencies required by the curriculum. Assessment activities intended to verify the achievement of learning outcomes may not provide timely evidence of learner performance, making it difficult for lecturers to identify learning gaps and implement corrective instructional strategies. In professional and skills-based programmes, delayed evaluation and feedback can compromise the verification of practical competencies and reduce the effectiveness of curriculum delivery. As a result, course objectives may be inadequately achieved, learner engagement and participation may decline, and the intended curriculum outcomes may not be fully realized.

Although numerous studies have examined the adoption and utilization of Learning Management Systems in higher education, limited empirical evidence exists regarding the specific contribution of LMS feedback mechanisms to curriculum implementation within Ugandan universities. Consequently, it remains unclear whether and to what extent LMS-enabled feedback supports the achievement of learning outcomes, competency development, and effective curriculum delivery. Therefore, this study was conducted to analyse how feedback mechanisms within Learning Management Systems contribute to curriculum implementation in universities in Uganda.

LITERATURE REVIEW

Theoretical Review

This study was anchored on two major theories namely, Connectivism Theory and Transactional Distance Theory. These theories provide a framework for understanding how feedback mechanisms within Learning Management Systems (LMSs) facilitate interaction,

collaboration, learner engagement, and curriculum implementation in higher learning institutions.

Connectivism Theory

Connectivism Theory was developed by George Siemens (2005) and later expanded by Stephen Downes. The theory emerged in response to the rapid growth of digital technologies and online learning environments, arguing that learning occurs through networks of information, people, and digital tools. Connectivism emphasizes that knowledge is distributed across networks and that learning involves the ability to access, connect, and apply information from various sources.

According to the theory, learning is no longer confined to traditional classroom interactions but occurs continuously through digital platforms, social interactions, and technological systems. Major principles of Connectivism include the importance of diversity of opinions, the ability to connect specialized information sources, continuous learning, learner autonomy, and the use of technology to facilitate knowledge sharing and collaboration. The theory further emphasizes that maintaining connections and nurturing networks are essential for effective learning.

The relevance of Connectivism Theory to the current study lies in its recognition of LMS platforms as digital networks that facilitate interaction, collaboration, and knowledge exchange between lecturers and learners. Feedback mechanisms within LMSs such as discussion forums, assignment comments, automated quizzes, peer reviews, and instant messaging support continuous communication and collaborative learning. Through these mechanisms, learners are able to access guidance, clarification, and academic support, thereby improving participation and curriculum implementation. The theory therefore provides a suitable foundation for understanding how feedback within LMS environments strengthens learner engagement and enhances instructional delivery in higher learning institutions.

However, critics of Connectivism such as Verhagen argue that the theory lacks clear pedagogical structure and does not adequately explain how deep learning occurs. Others contend that Connectivism is more of a technological perspective than a fully developed learning theory. Despite these criticisms, the theory remains highly relevant in explaining digital and online learning environments where interaction and connectivity are central to the learning process.

Transactional Distance Theory

Transactional Distance Theory was developed by Michael G. Moore in 1972 to explain the pedagogical and psychological distance that exists between learners and instructors in distance education environments. The theory posits that distance in education is not merely geographical but also instructional and communicative. According to Moore, the effectiveness of learning depends on the relationship between dialogue, structure, and learner autonomy.

The theory identifies three major components namely dialogue, structure, and learner autonomy. Dialogue refers to the interaction and communication between learners and instructors. Structure relates to the rigidity or flexibility of the instructional design, while learner autonomy concerns the ability of learners to independently manage their learning process. The theory argues that increased dialogue reduces transactional distance and improves learning effectiveness, whereas rigid instructional structures increase psychological distance between learners and instructors.

The contribution of Transactional Distance Theory to the current study is evident in the role of feedback mechanisms in reducing communication gaps within LMS environments. LMS-based feedback systems such as real-time comments, automated responses, online discussions, and

interactive assessments facilitate dialogue between lecturers and learners. These interactions minimize feelings of isolation, clarify learning expectations, and provide continuous academic support, thereby improving curriculum implementation. The theory therefore helps explain how effective feedback mechanisms strengthen communication and learner engagement in digitally mediated education contexts.

Despite its relevance, the theory has been criticized for focusing primarily on distance education while giving limited attention to sociocultural and technological factors that influence learning. Critics also argue that the theory may not fully account for the complexity of modern digital learning environments characterized by collaborative and networked learning practices. Nevertheless, the theory remains important in explaining how communication and interaction influence learning outcomes within online education systems.

Connectivism and Transactional Distance Theory provide complementary perspectives for understanding feedback mechanisms within Learning Management Systems. Connectivism explains the technological architecture of LMS network channels by emphasizing how learning occurs through digital connections, information networks, and interactions among learners, lecturers, and technological resources. The theory highlights the role of LMS platforms in creating and sustaining these knowledge-sharing networks. However, while Connectivism explains how feedback can be transmitted through technological channels, it does not sufficiently explain the quality and effectiveness of interactions that occur within those channels. Transactional Distance Theory addresses this limitation by providing the pedagogical framework and metrics for assessing whether LMS-mediated interactions successfully reduce the psychological and communication gap between lecturers and learners. Through its emphasis on dialogue, structure, and learner autonomy, the theory enables the evaluation of whether feedback mechanisms facilitate meaningful engagement, understanding, and support for curriculum implementation. Therefore, Connectivism explains the technological infrastructure through which feedback is delivered, while Transactional Distance Theory explains the pedagogical effectiveness of that feedback in bridging the transactional distance between lecturers and students.

Sellahewa (2025) examined the association between Learning Management System (LMS) assessment tools and academic decision-making within the Faculty of Management Studies and Commerce at a selected state university in Sri Lanka. The study highlights how the integration of LMS has transformed traditional approaches to teaching, learning, and assessment in higher education by providing tools such as online quizzes, assignments, and feedback systems. Using a quantitative research design, data were collected from 150 faculty members through structured questionnaires and analysed using correlation and regression techniques. The findings revealed a significant relationship between the use of LMS assessment tools and key academic decisions, including curriculum development, student evaluation, and instructional improvement. Additionally, perceived usefulness and perceived ease of use were identified as critical determinants influencing faculty members' adoption of LMS assessment tools. However, challenges such as system complexity and inadequate faculty training were found to hinder effective utilization. The study underscores the importance of improving LMS usability, strengthening faculty capacity-building initiatives, and integrating data-driven analytics to enhance informed academic decision-making in higher education institutions.

Tirmizi (2025) explored medical students' perceptions of formative assessment delivered through a learning management system, specifically the Moodle platform, within the context of forensic medicine education. Employing a descriptive cross-sectional design, the study collected data from 183 third- and fourth-year medical students at Fatima Rahim Medical and Professional College in Karachi using a validated thirteen-item Likert-scale questionnaire.

Findings indicated an overall positive student disposition toward learning management system-based formative assessments, with most students recognizing their organization, relevance, alignment with learning objectives, and effectiveness in supporting knowledge recall and cognitive challenge. The study demonstrates the novel application of learning management system-mediated formative assessment in a highly specialized and traditionally content-intensive medical discipline, highlighting its pedagogical value beyond general medical education contexts. Despite these positive perceptions, critical challenges were identified, including technical limitations and concerns regarding assessment duration and difficulty, which could affect optimal learning outcomes. The high internal consistency of the instrument, with a Cronbach's alpha of 0.893, reinforces the reliability of the findings, although sampling adequacy limitations were noted. Overall, the research contributes empirical evidence on student-centred formative assessment practices in forensic medicine and emphasizes the importance of refining technical infrastructure and assessment design to enhance the effectiveness of learning management system-based evaluation in medical education.

Odia, Nwogu, and Iwu (2025) examined the extent of Learning Management System (LMS) utilization in the teaching and learning of Business Education in tertiary institutions in Imo State, Nigeria. Adopting a descriptive survey research design, the study involved 271 lecturers and students sampled from a population of 592 across two tertiary institutions offering Business Education programmes. Data were collected using a researcher-designed structured questionnaire, with 232 valid responses analyzed using mean statistics. The findings revealed that LMS platforms specifically open-source, commercial, and cloud-based systems are main significantly underutilized in the delivery of Business Education courses. The novelty of this study lies in its comparative examination of multiple LMS platform typologies within a single disciplinary context, offering nuanced insights into differential adoption patterns in a resource-constrained higher education environment. The study further identified institutional, pedagogical, and capacity-related barriers, emphasizing the lack of enabling infrastructure, insufficient user training, and limited feedback mechanisms. Consequently, the authors recommended the creation of supportive institutional environments, continuous professional development for lecturers and students, and systematic user feedback processes to enhance LMS effectiveness. The study contributes context-specific evidence to the growing discourse on educational technology adoption in Sub-Saharan African tertiary institutions.

Ajani, Gamede, and Govender (2025) examined the cultural and ethical factors influencing the adoption of learning management systems in rural South African universities, highlighting the interplay between technological access, sociocultural dynamics, and ethical concerns. The study drew on the Technological Pedagogical Content Knowledge and Unified Theory of Acceptance and Use of Technology frameworks to analyse mixed-methods data, investigating how students engage with learning management systems in conditions of infrastructural limitation, sociocultural complexity, and digital vulnerability. Findings revealed that students' acceptance and sustained use of learning management systems are shaped by performance expectancy, facilitating conditions, and perceived ease of use. However, cultural relevance, language barriers, and distrust regarding the use of personal data significantly moderated these relationships. Engagement was further enhanced when learning content was culturally responsive and aligned with students lived experiences. The study presents a novel integrated analysis of cultural, ethical, and pedagogical factors affecting learning management system adoption in rural higher education, offering rare insights into how algorithmic bias, data privacy, and contextual realities jointly shape digital learning engagement. The research underscores that effective integration of learning management systems for rural students requires not only technological access but also ethical sensitivity, cultural alignment, and

intentional pedagogical design, providing practical guidance for institutions seeking to support equitable and secure digital learning environments.

Qadir (2025) did research on adaptive feedback system for improvement of learners through Learning management system. The main objective of the work was to take automated assessment to a stage where it will give meaningful and correct feedback so as to enhance the learning process of tertiary students using technology and teaching principles. The study was designed to determine how adaptive feedback system through Learning Management System benefits on explorations, helping the teachers to determine the specific instance affecting the learner's learning result. The study used quantitative method to determine the relationship between two variables. The study found out that informed teachers of their students' strength and weakness are able to formulate their teaching practice to address the difficult students suitably for better outcomes. It was also found out that the system presented in this paper can also be applied by institutions where outcome-based education system is in place. While Qadir (2025) presents good insights on how adaptive feedback systems can be applied to improve learner outcomes through Learning Management Systems (LMS), the study is primarily quantitative and teacher-cantered adaptation. However, less research exists examining how students themselves interpret and work with adaptive feedback within LMS systems. The study also does not investigate the long-term impact of such systems on learner independence, motivation, and performance in learning in different learning environment

Laflen (2017) conducted a study on tracking student interactions with instructor feedback in a learning management system, specifically focusing on how LMS design affects students' engagement with feedback. The study was motivated by the observation that while instructors prioritize feedback as a tool for learning, students tend to place greater value on grades. Conducted at a medium-sized, comprehensive private college, the research involved 334 students across 16 courses and used Sakai LMS to assess how students interacted with instructor feedback on their writing. The study compared two feedback display modes: mode 1, where grades were visible separately from feedback and mode 2, where students had to open attached feedback files to view their grades. Data collected automatically by the LMS showed that when grades were visible without opening the feedback files (Mode 1), students were significantly less likely to access the feedback. Additionally, the timing of feedback release influenced how quickly and frequently students accessed it. The study highlighted the need for empirically informed practices in structuring online grading and feedback systems to promote deeper student engagement with instructor comments. Although the study effectively demonstrates how the visibility of grades within an LMS interface influences students' likelihood of accessing instructor feedback, the study focuses mainly on the behavioural aspect of feedback interaction. It does not explore the impact of accessed feedback on actual learning outcomes or how students perceive, internalize, and apply the feedback received. Additionally, there is limited insight into how different forms or qualities of feedback (e.g., personalized, formative, or adaptive) within LMS platforms affect student engagement and academic improvement.

Todorova (2024), in her Bachelor's thesis titled Optimizing Feedback in Learning Management Systems to Increase Student Engagement (University of Twente), investigates how feedback, communication methods, and user experience within Learning Management Systems can be enhanced through gamification and personalized learning approaches. The study explores the flow of data in online feedback loops and proposes the design of a customized feedback system, supported by a literature review and a laboratory experiment, to assess the impact of gamification and learning analytics on motivation and performance particularly in the presence of monetary incentive schemes. While Todorova provides valuable insights into the role of

feedback in gamified LMS environments, her research is limited to controlled settings and does not sufficiently address how real-time pedagogical data can be integrated into adaptive feedback systems across diverse educational contexts. Furthermore, the long-term impact of such feedback mechanisms on learner motivation, retention, and performance, as well as their effectiveness across varying learner demographics, remains underexplored. This reveals a research gap in the scalability, inclusiveness, and sustained impact of personalized, gamified feedback systems in authentic learning environments.

Attiogbe et al. (2025), in their study published in the Journal of Research in Innovative Teaching & Learning, examine the relationship between feedback strategies and learning improvement within the context of distance education, specifically using the Sakai Learning Management System. The study investigates how different feedback strategies and the embedding of course syllabi influence learning outcomes. The study employed a survey design, where the researchers collected cross-sectional data from adult distance learning students and analysed it using descriptive statistics and a standard multiple regression model in Stata. The findings indicate that key feedback strategies namely timing, mode, quality, and quantity alongside the integration of the course syllabus, are significantly associated with improved learning. Interestingly, although the "target" aspect of feedback strategy was rated as the most common, it showed no significant impact on learning outcomes. Despite these valuable insights, the study does not delve into how these feedback strategies function over time or how learners of differing backgrounds interpret and respond to various feedback modes. This highlights a research gap regarding the longitudinal effects of feedback strategies and their differentiated impact across diverse learner profiles in distance education contexts

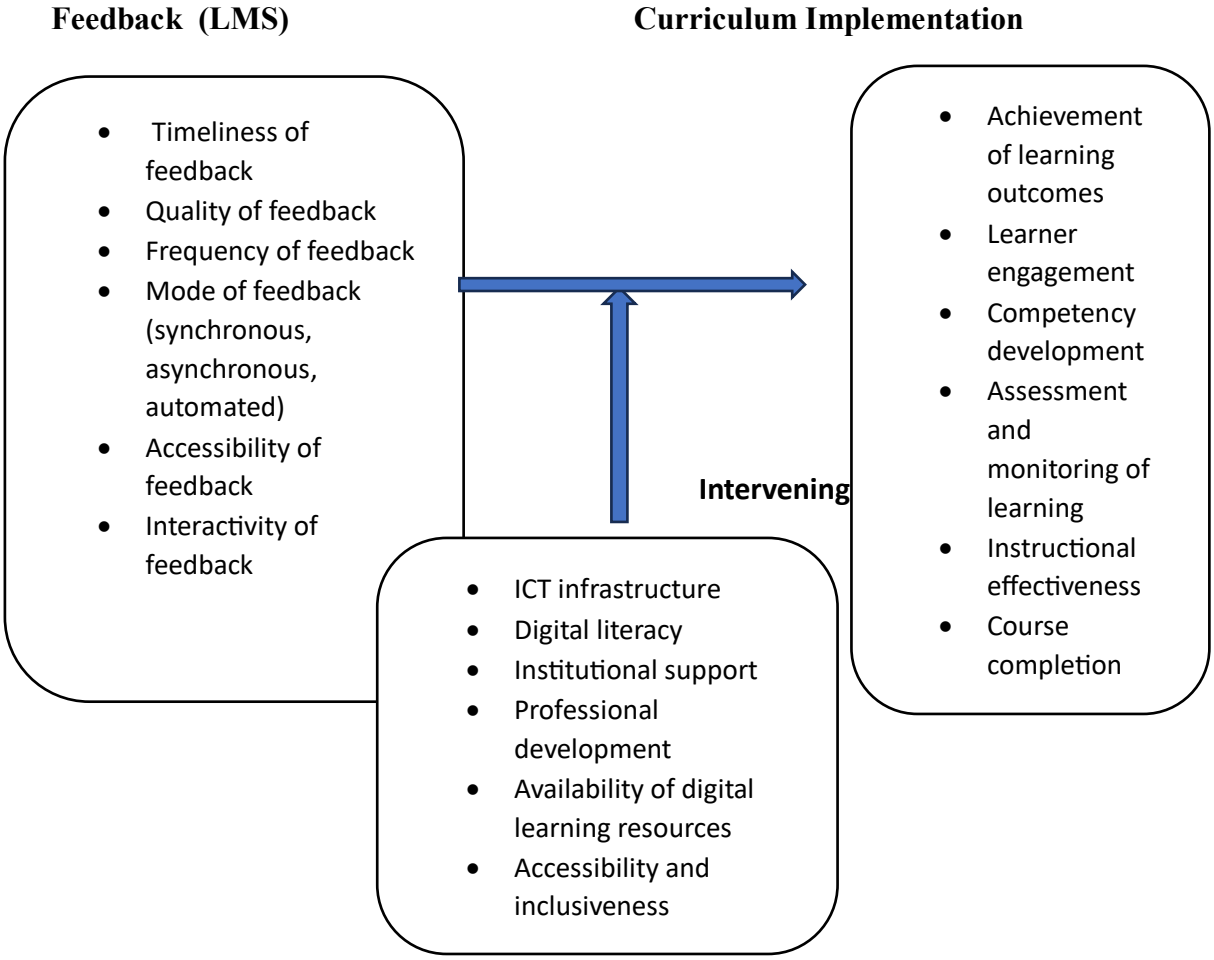
Meikleham (2020) looked into how informal feedback can help improve online course design. The goal was to understand the role of informal feedback in education and its effect on how curriculums are rolled out. They found four key themes for getting informal feedback in online settings: putting more focus on formal assessments, creating alternative face-to-face experiences, manually analyzing feedback from students, and using automated tools. Good feedback is really important for learning. The study pointed out that online education could get a lot better by grasping how formal and informal feedback works in these online spaces. They also noted there are different ways to give feedback, from face-to-face to online, and informal to formal methods. But the study only looked at informal feedback and didn't really deal with formal feedback, which this research will address.

Ok (2025) provided a valuable analysis of the increasing adoption of Learning Management Systems (LMS) in higher education, highlighting key features such as interactivity, accessibility, and collaborative tools that enhance student engagement. The study effectively identifies challenges, including technological barriers, user training, and content delivery methods, while also recognizing factors like user experience, system integration, and institutional support as critical to LMS success. However, while the findings suggest that interaction fosters deep learning and improves academic performance, the study's exclusive reliance on quantitative methods limits its depth. It does not capture the nuanced experiences of students and educators, which qualitative methods would better explore. Factors such as learner perceptions, cognitive engagement, and contextual challenges require qualitative insights to complement the statistical findings. By neglecting qualitative approaches, the study fails to provide a holistic understanding of LMS effectiveness. Therefore, while Ok's study is informative, it lacks a comprehensive perspective on student engagement, a gap this research seeks to fill by integrating qualitative methods to provide a more balanced and in-depth analysis.

Kuzminykh (2024) in the study conducted provided a compelling analysis of AI tools, particularly large language models like ChatGPT, in enhancing feedback within learning management systems and online education. The study effectively underscores the importance of feedback in learning and assessment while advocating for the careful customization of AI tools to optimize student support. The proposed alternative feedback framework, integrating embeddings for topic-targeted quiz assessments, presents a novel approach that enhances AI-generated feedback, even rivaling human narratives. However, the study's primary limitation lies in its narrow focus on ChatGPT, overlooking other AI-driven LMS features and broader digital learning ecosystems. By exclusively evaluating ChatGPT, the research fails to consider how other LMS-integrated AI tools contribute to feedback mechanisms, adaptive learning, and personalized instruction. A more comprehensive approach comparing multiple AI-powered LMS solutions would provide a richer understanding of AI's role in education. Therefore, while Kuzminykh's study offers valuable insights, this research seeks to bridge the gap by exploring a wider range of LMS tools beyond ChatGPT, ensuring a more holistic evaluation of AI's impact on educational feedback and student engagement.

Winstone (2021) did a study looking at how 33 undergrad students interact with feedback on their learning management system (LMS). He aimed to find out what students thought about the feedback they received, what kept them from getting involved, and how they viewed technology's role in overcoming those challenges. The findings showed there were real issues with engagement in the LMS, mainly because grades and feedback were separated in a way that made it hard for students to focus on the feedback. Also, feedback was scattered across different tasks, making it tough for students to put it all together. Still, students believed that the LMS could help them by offering a way to gather feedback from different modules and point them to resources that could improve their skills. However, the study was only done in the UK and didn't include other places like Africa, which is something this research will look into.

Conceptual Framework



Research Gaps

Although previous studies have established that Learning Management Systems (LMSs) enhance assessment, communication, student engagement, and online learning, several gaps remain insufficiently addressed. Most studies reviewed concentrated on specific LMS functions such as assessment tools, gamification, adaptive feedback, or AI-supported feedback systems, with limited attention given to how feedback mechanisms specifically contribute to curriculum implementation in higher learning institutions. In addition, many studies relied predominantly on quantitative research approaches, thereby limiting deeper understanding of the experiences, perceptions, and contextual realities of both lecturers and learners regarding LMS feedback practices. Furthermore, much of the existing literature was conducted in developed countries and technologically advanced educational settings, creating limited contextual evidence from Sub-Saharan Africa, particularly Uganda.. Therefore, this study sought to fill these methodological, contextual, and conceptual gaps by using a mixed methods approach to analyse how feedback mechanisms within Learning Management Systems contribute to curriculum implementation at Kyambogo University.

MATERIAL AND METHODS

Study Design

The study adopted a parallel convergent mixed methods research design to obtain both quantitative and qualitative data on how feedback mechanisms within Learning Management

Systems contribute to curriculum implementation in higher learning institutions. The design enabled the researcher to collect, analyse, and compare quantitative and qualitative findings simultaneously in order to achieve a comprehensive understanding of the study problem.

Study Location

The study was carried out at Kyambogo University, specifically within the Faculties of Engineering and Special Needs Education. The university was selected because it actively utilizes Learning Management Systems to facilitate teaching, learning, assessment, and communication between lecturers and students.

Study Population

The target population comprised administrators, lecturers, and students at Kyambogo University who were directly involved in the use of the Learning Management System for teaching and learning activities. These respondents were considered appropriate because they possessed relevant knowledge and experience regarding LMS feedback mechanisms and curriculum implementation.

Sample Size and Sampling Techniques

A sample size of 185 respondents was selected for the study. Purposive sampling techniques were used to select participants who actively interacted with the Learning Management System and could provide relevant information regarding feedback mechanisms and curriculum implementation. The sampling approach enabled the researcher to obtain rich and reliable data from respondents with adequate experience in LMS usage.

Data Collection Methods and Instruments

Data were collected using structured questionnaires and interview guides. Questionnaires were administered to respondents to obtain quantitative data regarding perceptions of LMS feedback mechanisms and curriculum implementation. Interview guides were used to collect qualitative data from selected participants in order to gain deeper insights into their experiences, challenges, and views regarding the use of LMS feedback systems in teaching and learning.

Statistical Analysis

Quantitative data were analysed using descriptive and inferential statistical techniques with the aid of Statistical Package for Social Sciences (SPSS). Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data, while Pearson correlation and regression analysis were employed to determine the relationship between feedback mechanisms and curriculum implementation. Qualitative data obtained from interviews were analysed thematically to identify recurring themes, patterns, and meanings related to LMS feedback mechanisms and curriculum implementation

FINDINGS

Table 1: Feedback Mechanisms Employed at Kyambogo University

Statements	SD		D		NS		A		SA		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
The LMS provides timely feedback on assignments and assessments	2	1.1	3	1.6	14	7.6	82	44.3	84	45.4	4.31	0.773
The feedback mechanisms in the LMS enhance students learning experience	5	2.7	8	4.3	14	7.6	69	37.3	89	48.1	4.24	0.960
The feedback given through the LMS helps students to understand their strengths and weaknesses	4	2.2	12	6.5	24	13.0	53	28.6	92	49.7	4.17	1.028
The LMS structure makes feedback reach students very fast	5	2.7	13	7.0	19	10.3	74	40	74	40	4.08	1.013
Students can easily access feedback on past assignments and quizzes within the LMS	7	3.8	10	5.4	14	7.6	74	40	80	43.2	4.14	1.026
The LMS allows students to respond or seek clarification on feedback provided	14	11.6	11	5.9	26	14.1	57	30.8	77	41.6	3.93	1.216
Automated feedback (e.g., quiz results) in the LMS is accurate and useful.	6	3.2	9	4.9	12	6.5	72	38.9	86	46.5	4.21	0.990
Peer feedback features in the LMS are effective in supporting learning.	7	3.8	8	4.3	22	11.9	76	41.1	72	38.9	4.07	1.011
Instructors regularly use the LMS to provide formative feedback during the course	7	3.8	13	7.0	26	14.1	68	36.8	71	38.4	3.99	1.073
The LMS notifies students promptly when new feedback is posted.	7	3.8	17	9.2	23	12.4	66	35.7	72	38.9	3.97	1.108

Source: Primary Data, 2025

This section presents and interprets respondents' views on the effectiveness of the Learning Management System (LMS) in providing feedback to students. The analysis is based on mean scores and standard deviations derived from Likert-scale responses, where SD = Strongly Disagree, D = Disagree, NS = Not Sure, A = Agree, and SA = Strongly Agree.

Timeliness of Feedback Provision had a mean of 4.31 and a standard deviation of 0.773. This implies that the majority of respondents strongly agreed that the LMS effectively provides timely feedback. Specifically, 44.3% agreed and 45.4% strongly agreed, showing that nearly 90% of respondents viewed the system as responsive. The relatively low standard deviation

indicates consensus among participants. This finding suggests that the LMS plays a critical role in ensuring prompt communication between instructors and students, enabling learners to receive evaluations without delay and make timely improvements in their academic performance.

Furthermore, on the issue of enhancement of Learning experience through feedback, respondents recorded a mean of 4.24 and a standard deviation of 0.960, indicating strong agreement. Nearly half (48.1%) of the participants strongly agreed, while 37.3% agreed. This shows that students recognize feedback through the LMS as a valuable tool that deepens their learning engagement and understanding. The results imply that the system contributes positively to formative learning by offering structured and consistent communication that helps students reflect on their academic progress.

Understanding of strengths and weaknesses through feedback obtained a mean score of 4.17 and a standard deviation of 1.028, which corresponds to an agreement level. Nearly 78% of respondents either agreed or strongly agreed with this statement. This suggests that the feedback features within the LMS provide meaningful insights into students' academic abilities, allowing them to identify areas requiring improvement. The slightly higher standard deviation reflects varying experiences among users, possibly due to differences in how instructors utilize feedback tools.

In addition, speed of feedback delivery yielded a mean of 4.08 and a standard deviation of 1.013, showing general agreement. Approximately 80% of respondents either agreed or strongly agreed. This indicates that the LMS design facilitates rapid feedback transmission, minimizing delays associated with manual grading or face-to-face consultations. Such efficiency enhances continuous learning and supports the timely correction of learning errors.

Also, accessibility of feedback on past assessments recorded a mean score of 4.14 and a standard deviation of 1.026. The majority (83.2%) of respondents agreed or strongly agreed, demonstrating that students find it easy to revisit past assessments and review the comments or grades provided. This accessibility feature strengthens self-regulated learning, as learners can reflect on their progress and use historical feedback to improve future performance.

On the issue of opportunities for Clarification on Feedback, the mean was 3.93 with a standard deviation of 1.216. This mean indicates agreement, although slightly lower than the previous items. About 72.4% of respondents agreed or strongly agreed, but the relatively higher standard deviation suggests mixed experiences among users. While many students find the LMS interactive, others may encounter challenges in communication channels or delayed instructor responses. This points to a need for continuous improvement in the two-way feedback functionality of the system.

For accuracy and usefulness of automated feedback, there was a mean of 4.21 and a standard deviation of 0.990, reflecting strong agreement. A total of 85.4% of respondents agreed or strongly agreed that automated feedback mechanisms are reliable. This indicates that the LMS is perceived as an effective and accurate platform for immediate feedback on objective assessments such as quizzes and online tests. Such automation enhances efficiency, consistency, and fairness in grading processes.

Effectiveness of peer feedback features resulted in a mean of 4.07 and a standard deviation of 1.011. This shows general agreement among respondents, with 80% either agreeing or strongly agreeing. The finding suggests that collaborative learning features such as peer review discussions and group forums are valuable in enhancing student engagement and knowledge sharing. However, the standard deviation indicates some variability, possibly due to differences in how peer feedback activities are structured or supervised by instructors.

More to that, provision of formative feedback by Instructors yielded a mean of 3.99 and a standard deviation of 1.073, indicating agreement. Approximately 75% of respondents agreed or strongly agreed. This implies that instructors are making deliberate efforts to provide continuous feedback through the LMS. However, the relatively moderate mean suggests that some instructors may still rely on traditional methods or use the system inconsistently. Continuous training and institutional support could therefore enhance consistent formative feedback practices.

Prompt notification of feedback garnered a mean of 3.97 and a standard deviation of 1.108. This reflects agreement, with 74.6% of respondents agreeing or strongly agreeing. The data indicate that the notification system within the LMS generally functions effectively, ensuring that students are aware of newly posted feedback. However, the moderate standard deviation suggests occasional delays or technical inconsistencies in notification delivery, possibly depending on system configurations or user engagement levels.

Overall, the results demonstrate that respondents perceive the Learning Management System (LMS) as a highly effective tool for providing feedback. All items scored mean values above 3.90, indicating a strong consensus that the LMS enhances communication, facilitates timely and accessible feedback, and supports continuous learning. The highest-rated aspect was timely feedback provision (M = 4.31, SD = 0.773), while the lowest-rated but still positive was feedback clarification (M = 3.93, SD = 1.216). This suggests that while the LMS excels in automated and structured feedback delivery, there is room for improvement in interactive and two-way feedback communication between students and instructors.

Table 2: Correlation Analysis Showing the Contribution of Feedback Mechanisms on Curriculum Implementation

		Feedback mechanism	Curriculum implementation
Feedback mechanisms	Pearson Correlation	1	.346**
	Sig. (2-tailed)		.000
	N	185	185
Curriculum implementation	Pearson Correlation	.346**	1
	Sig. (2-tailed)	.000	
	N	185	185

**. Correlation is significant at the 0.01 level (2-tailed).

The study sought to determine the relationship between feedback mechanisms and curriculum implementation in higher learning institutions. A Pearson Product-Moment Correlation Coefficient was computed to establish the nature and strength of the association between the two variables. The results, as presented in the table above, show that there is a moderate positive correlation between feedback mechanisms and curriculum implementation, *($r = .346$, $n = 185$, $p < .01$)*. This correlation is statistically significant at the 0.01 level (2-tailed), implying that institutions with more effective feedback systems tend to exhibit higher levels of curriculum implementation.

The finding suggests that feedback mechanisms play a crucial role in shaping the effectiveness of curriculum implementation processes. As the effectiveness and regularity of feedback increase, the implementation of the curriculum also improves. The significance of this finding

is both theoretical and practical. Theoretically, it reinforces the notion that feedback is an indispensable element of curriculum management and evaluation. Practically, it underscores the need for higher education institutions to institutionalize robust feedback mechanisms involving all stakeholders' teachers, learners, administrators, and policymakers to promote continuous curriculum improvement. In a nutshell, feedback mechanisms have a statistically significant and positive influence on curriculum implementation. Strengthening feedback channels is therefore recommended as a strategic approach to improving curriculum implementation in higher learning institutions.

Table 3: Regression Analysis Showing the Contribution of Feedback Mechanisms on Curriculum Implementation

R Square = .146				F= 18.177	
Adjusted R =. 138				Sig = .000[b]	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.707	.344		7.864	.000
	FEEDBACK	.366	.086	.383	4.263	.000

a. Dependent Variable: CURRICULLUM

The unstandardized regression coefficient for feedback (B = 0.366, SE = 0.086) indicates that a one-unit increase in feedback mechanisms is associated with an expected increase of 0.366 units in curriculum implementation. The standardized coefficient (β = 0.383) further reflects a moderate positive effect of feedback on curriculum delivery. The corresponding t-value (t = 4.263, $p < 0.001$) confirms that this relationship is statistically robust. The intercept of 2.707 signifies the expected level of curriculum implementation when feedback mechanisms are absent, serving as the baseline in this context. The model explained 14.6% of the variance in curriculum implementation ($R^2 = 0.146$), and the overall regression model was statistically significant ($F = 18.177$, $p < 0.05$). Consequently, the null hypothesis was rejected.

These results underscore the critical role of feedback in enhancing curriculum implementation by facilitating timely, structured, and actionable guidance for both instructors and learners. From a theoretical perspective, the findings resonate with Connectivism theory, which emphasizes the importance of knowledge networks and information flows in supporting learning, suggesting that feedback functions as a conduit for networked knowledge exchange. Additionally, the results are consistent with Transactional Distance theory, wherein structured feedback reduces psychological and communication gaps between instructors and learners, thereby enhancing engagement and fidelity in curriculum delivery. Overall, the analysis provides empirical evidence that well-designed feedback mechanisms within higher learning institutions are vital drivers of effective curriculum implementation, operating both as instructional tools and as mediators of learner-instructor interaction

Table 4: Qualitative Findings Showing the Contribution of Feedback Mechanisms to Curriculum Implementation

Theme	Sub-themes	Findings
Types of Feedback Mechanisms	Interactive, Automated, Instant, Peer	LMS supports multiple feedback forms including automated, peer, and interactive. Automated feedback gives instant scores and corrections after assignments. Interactive feedback allows learners to seek clarification and engage with instructors.
Benefits of Feedback	Collaboration and Knowledge Sharing	Students gain deeper understanding through idea sharing and peer discussions. Peer engagement motivates learners to read ahead and prepare for sessions. Sharing materials and reminders enhances academic discipline and interaction.
Effectiveness of LMS Feedback	Reliability, Timeliness, Usability	Feedback provides broader ideas, examples, and guidance for improvement. It is reliable, fast, and cost-effective for learners. Instant scores and correct answers enhance self-assessment and motivation.
Challenges in Using LMS Feedback	Accessibility, Infrastructure, and Digital Literacy	Poor internet connectivity and system overloads hinder access to feedback. The LMS is less inclusive for learners with disabilities (e.g., low vision, hearing impairment). Many students lack adequate digital literacy and resources like data bundles and devices.
Proposed Solutions to Feedback Challenges	Capacity Building, Accessibility, and Inclusivity	Provide training for students and lecturers on LMS use. Improve internet access and integrate data-free access to LMS. Make the system inclusive for persons with disabilities (e.g., dark theme, talk-back, bold notes).
Pedagogical and Institutional Implications	Policy Support, Integration, and Continuous Improvement	Institutions should integrate feedback as a key component of online pedagogy. Continuous monitoring and policy support are necessary for sustainability. Feedback mechanisms should align with learner-cantered instructional models.

Types of Feedback Mechanisms: The study revealed that Learning Management Systems support multiple types of feedback mechanisms, including automated, interactive, instant, and peer feedback. Respondents reported that automated feedback provides immediate scores and corrections after assignments, enabling learners to identify errors and improve performance in real time. This rhymes with one respondent who said *"The system gives us instant results once an assignment is submitted. You immediately see where you went wrong, the correct answers, and your score, which helps you correct mistakes and improve before the next task."* Interactive feedback allows students to engage directly with instructors for clarification, discussion, and guidance, fostering deeper understanding. Similarly, peer feedback encourages collaborative learning by enabling students to assess and support each other's work. The prominence of these feedback types aligns with Transactional Distance Theory, which posits that instructional effectiveness in distance learning depends on the balance between structure, dialogue, and learner autonomy. Transactional distance is reduced as learners receive timely responses,

guidance, and clarification, thereby bridging the cognitive and psychological gap between instructors and students. Furthermore, the findings resonate with Connectivism Theory, which emphasizes learning as a process of forming networks through interactions with diverse information sources and peers. The LMS's capacity to facilitate multiple feedback pathways supports knowledge sharing and networked learning, empowering students to construct understanding collaboratively and independently. Overall, the thematic analysis highlights that LMS-driven feedback mechanisms not only enhance learner engagement and performance but also reinforce theoretically grounded principles of interaction, connectivity, and autonomy in higher learning contexts.

Benefits of Peer Feedback: The study highlighted that feedback mechanisms within Learning Management Systems significantly enhance collaboration and knowledge sharing among students. Respondents noted that peer discussions and the exchange of ideas deepen understanding of course content, while engagement with peers motivates learners to read ahead, prepare for sessions, and actively participate in learning activities. Additionally, the sharing of learning materials, reminders, and clarifications through LMS platforms was reported to foster academic discipline and sustained interaction. One respondent confirmed that *"The LMS helps us remind each other about tasks, share materials, and clarify issues, which keeps us focused and disciplined academically."* These findings are consistent with Transactional Distance Theory, which emphasizes that dialogue and structured interaction reduce the psychological and cognitive distance between learners and instructors, thereby enhancing learning outcomes. LMS-facilitated feedback, by enabling continuous communication and peer engagement, effectively narrows this transactional distance and promotes a sense of connectedness within the learning environment. Furthermore, from the perspective of Connectivism Theory, the LMS acts as a networked learning environment where knowledge is distributed across nodes and connections. Feedback processes, especially peer-to-peer interactions, allow learners to co-construct knowledge, share resources, and form learning networks, reflecting the principle that learning occurs through connections rather than in isolation. Overall, the thematic analysis demonstrates that LMS feedback mechanisms not only enhance understanding but also foster collaborative learning, peer motivation, and knowledge sharing, reinforcing both theoretical and practical benefits in higher education contexts

Effectiveness of LMS Feedback. The study found that feedback provided through Learning Management Systems is effective due to its reliability, timeliness, and usability. Respondents indicated that LMS feedback offers broader ideas, clear examples, and practical guidance for improvement, enabling learners to evaluate their performance accurately. The provision of instant scores and correct answers was reported to enhance self-assessment, motivation, and continuous engagement with learning tasks. As one respondent noted, *"The feedback on the LMS is very fast and clear; you get instant scores and correct answers, which helps you assess yourself and improve without waiting."* These findings align with Connectivism Theory, which views learning as an ongoing process of connecting learners to digital networks and information sources. LMS feedback facilitates immediate interaction between learners and system-generated knowledge, enabling continuous updating and refinement of understanding. In addition, the findings support Transactional Distance Theory, as timely and clear feedback increases dialogue and reduces psychological distance between learners and content. By enabling independent monitoring of progress, LMS feedback enhances learner autonomy while maintaining structured instructional support.

Challenges in Using LMS Feedback. Despite the benefits of LMS feedback, the study identified several challenges related to accessibility, infrastructure, and digital literacy. Respondents

reported that poor internet connectivity, system overloads, and unstable platforms often limit timely access to feedback, particularly for students in resource-constrained settings. As one respondent observed, *"Sometimes the system is slow or fails to open because of poor internet, so you miss feedback even when it has already been posted."* The findings further revealed that LMS platforms are less inclusive for learners with disabilities, especially those with visual or hearing impairments, due to limited accessibility features. In addition, many students were reported to lack adequate digital literacy skills and essential resources such as compatible devices and sufficient data bundles, which restrict consistent engagement with LMS feedback. These challenges increase transactional distance by limiting dialogue and learner autonomy, thereby constraining the effectiveness of feedback in technology-mediated learning environments.

Proposed Solutions to Feedback Challenges. The study proposed several solutions to address challenges associated with LMS feedback, focusing on capacity building, accessibility, and inclusivity. Respondents emphasized the need for continuous training of both students and lecturers to enhance effective use of LMS feedback tools and improve digital competence. Strengthening institutional capacity through targeted training was viewed as essential for maximizing the pedagogical value of feedback. As one respondent stated, *"If both students and lecturers are trained well on how to use the LMS, feedback becomes easier to access and more useful for learning."* In addition, respondents recommended improving internet connectivity and introducing data-free or subsidized access to LMS platforms to ensure timely access to feedback, particularly for students with limited resources. The study also highlighted the importance of making LMS platforms more inclusive by integrating accessibility features such as dark themes, talk-back functions, and bold or adjustable text to support learners with disabilities. These measures were viewed as critical for reducing barriers to feedback access and promoting equitable participation in digital learning environments.

Pedagogical and Institutional Implications: Institutional commitment is vital for sustaining effective feedback systems. From the researcher's perspective, embedding feedback into policy and practice transforms learning into a continuous, reflective process. When supported institutionally, feedback promotes learner independence and self-regulation. Transactional Distance Theory explains that structured dialogue within institutional frameworks reduces learner isolation and fosters deeper interaction. Connectivism Theory adds that universities must maintain robust learning networks that connect instructors, learners, and digital tools to facilitate adaptive and lifelong learning.

Conclusively, effective feedback mechanisms reduce transactional distance by fostering interaction and clarity and strengthen learning networks by enabling collaborative, adaptive learning. Thus, LMS feedback should be viewed as a central pillar of digital pedagogy connecting learners, instructors, and content in a seamless, interactive ecosystem.

Table 5: Integrated Convergence Analysis of Feedback Mechanisms and Curriculum Implementation

Key Aspect	Quantitative Result	Qualitative Insight	Integrated Interpretation
Timeliness of feedback	Very high agreement (M = 4.31)	Instant, fast feedback reported	Strong convergence: LMS ensures rapid feedback delivery
Learning improvement	High agreement (M = 4.24)	Feedback improves understanding and motivation	Convergence: Feedback enhances learning outcomes
Self-assessment	High agreement (M = 4.17)	Students identify strengths/weaknesses easily	Convergence: Supports reflective learning
Accessibility of feedback	High agreement (M = 4.14)	Some access barriers (internet/devices)	Partial divergence: Access generally good but context-limited
Interaction/clarification	Moderate agreement (M = 3.93)	Weak/uneven lecturer response	Convergence on weakness: Two-way feedback needs improvement
Automated feedback	High agreement (M = 4.21)	Instant scores seen as reliable	Strong convergence: Automation improves accuracy and speed
Peer feedback	Moderate-high (M = 4.07)	Enhances sharing	Complementarity: Qualitative expands social learning value
Lecturer feedback use	Moderate agreement (M = 3.99)	Inconsistent LMS use by lecturers	Convergence: Formative feedback exists but not consistent
Notifications	Moderate agreement (M = 3.97)	Occasional delays reported	Partial convergence: System works but not always

The table shows how quantitative and qualitative findings on LMS feedback mechanisms relate to each other. Each row represents one important aspect of feedback. The quantitative results show the level of agreement based on mean scores, while the qualitative insights show participants' explanations and lived experiences. The final column shows how the two sets of findings relate. Convergence means both quantitative and qualitative findings agree and point to the same conclusion. For example, both data sources confirm that LMS feedback is fast and improves learning. Partial divergence means the findings mostly agree, but there are some differences in experience. For example, feedback is generally accessible, but some students face challenges such as poor internet or lack of devices. Complementarity means the two findings do not contradict each other, but the qualitative data adds more explanation or depth to what the quantitative results show. For example, peer feedback is rated positively in surveys, and interviews explain that it improves collaboration and knowledge sharing. Convergence on weakness means both datasets agree that there is a problem.

In conclusion, there is strong evidence of convergence and complementarity between quantitative and qualitative findings, confirming that LMS feedback mechanisms play a critical

role in enhancing curriculum implementation. However, areas of divergence highlight the need for institutional improvements in infrastructure, accessibility, and interactive feedback practices.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings of this study demonstrate that feedback mechanisms facilitated through the Learning Management System (LMS) play a critical role in enhancing curriculum implementation at Kyambogo University. Quantitative results reveal consistently high mean scores across all feedback-related items, indicating that students strongly perceive LMS feedback as timely, accessible, accurate, and supportive of learning. Features such as automated feedback, access to past assessments, peer interaction, and formative feedback were identified as particularly valuable in enabling learners to monitor their progress, reflect on performance, and improve academic outcomes.

The relatively low standard deviations further suggest a shared and consistent student experience, reinforcing the reliability of these perceptions across the sample. Correlation and regression analyses provide strong empirical evidence that feedback mechanisms have a statistically significant moderate positive relationship with curriculum implementation. The regression model further confirms that feedback is a strong predictor of curriculum implementation, implying that improvements in feedback systems are directly associated with enhanced teaching effectiveness, assessment quality, and learning outcomes.

Qualitative findings complement these results by showing that LMS-based feedback promotes collaboration, motivation, self-assessment, and knowledge sharing among students. It enhances learner engagement and supports deeper understanding of course content through interactive and continuous communication. However, the study also identifies key challenges, including unreliable internet connectivity, system overloads, limited digital literacy, and accessibility constraints for students with disabilities. These barriers limit the full effectiveness of LMS feedback and may widen inequities in learning experiences if not addressed.

Overall, the study concludes that feedback mechanisms are indispensable to effective curriculum implementation in digital learning environments. While the LMS at Kyambogo University is generally effective, its full potential is yet to be realised due to infrastructural and user-related constraints.

Recommendations

Based on the findings, the study makes the following recommendations to strengthen feedback mechanisms and improve curriculum implementation:

Strengthen ICT Infrastructure: The university should invest in reliable and high-speed internet connectivity, expand server capacity, and ensure system stability to reduce delays and system overloads, especially during peak academic periods.

Enhance Digital Literacy and Capacity Building: Regular training should be provided for both students and lecturers to improve competence in using LMS tools effectively. This will enhance the quality, consistency, and responsiveness of feedback practices.

Improve Feedback Design and Delivery: Lecturers should be encouraged to provide timely, constructive, and personalized feedback. The LMS should also be optimized to support richer feedback formats such as audio, video, and annotated comments to improve clarity and engagement.

Promote Inclusive Learning Environments: The university should integrate accessibility features within the LMS, such as screen readers, captioning, and adaptive interfaces, to support learners with disabilities and ensure equitable access to feedback.

Strengthen Blended Feedback Approaches: While digital feedback is effective, combining it with face-to-face academic consultations can enhance understanding, particularly for complex content areas.

Continuous System Evaluation and Improvement: Regular monitoring and evaluation of the LMS feedback system should be institutionalized to identify gaps, gather user feedback, and guide continuous improvement.

Encourage Peer and Collaborative Feedback Practices: Structured peer assessment activities should be integrated into coursework to further enhance critical thinking, reflection, and collaborative learning.

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Conflicts of Interest Declaration

The author declares that there are no conflicts of interest regarding the publication of this research. The study was conducted independently, and no financial, personal, or institutional relationships influenced the design, data collection, analysis, interpretation, or reporting of the findings.

All views expressed in this study are solely those of the researcher and do not necessarily reflect the official position of Kyambogo University or any affiliated institution.

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