Exploring Students' Perceptions of Moodle as a Tool for Enhancing Transformative Learning in a Rural University in Tanzania

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ABSTRACT

This study examines students' perceptions of Moodle as a tool for enhancing transformative learning in a rural setting. Specifically, it aims to examine students' ability to access and utilize the platform, identify challenges they face when using the Moodle LMS, and quantify their perceptions of the features offered by the system. Employing a quantitative approach, data were collected from 1,412 rural university students in Tanzania. The data were analyzed using descriptive statistics and the Relative Importance Index (RII) to rank the challenges associated with using Moodle LMS. The study revealed that a vast majority of students (96.8%) at the rural university have used Moodle LMS, primarily via their smartphones. While students appreciated the platform's flexibility for learning anytime and anywhere, the unavailability of learning materials within the LMS was the most significant challenge, followed by issues with self-enrollment, as indicated by the RII. Despite these challenges, 63% of students perceived Moodle as user-friendly and reported positive experiences. Although Moodle facilitates easy access to learning resources and supports self-directed learning, instructors need to provide updated materials and engage students in collaborative activities to foster transformative learning.

Keywords: E-learning, transformative learning, blended learning**,** Moodle

INTRODUCTION

The introduction of digital technologies in education has continued to influence how students learn and how instructors conduct their teaching. Both, students and teachers have found integration of educational technology as an integral part of education which assists learning. Different educational technologies have continued to emerge, these include gamification, cloud computing, learning management systems, virtual reality, and artificial intelligence (Almasi & Zhu, 2020). Digital technology uses electronic technology to provide an alternative way to access curriculum education outside of a physical classroom environment. As such, educators can use computers,

smartphones, and tablets to create interactive content which can be accessed online and offline. The use of such digital technologies has been linked with transformative learning (Pavlakou et al., 2019; Vindaca & Lubkina, 2020). Nevertheless, literature emphasizes the importance of pedagogy, environment, and technology as key elements in creating modern learning environment for transforming learning. As technology increasingly impacts our society and economy, educators tend to adopt digital tools and practices that enhance transformative learning (Javed, 2024). Educational technology supports transformative learning by providing interactive and reflective learning experiences (King, 2002). Digital tools such as online discussion forums, virtual simulations, adaptive learning platforms, and multimedia resources encourage learners to engage with diverse perspectives, question their assumptions, and actively construct new meanings. However, the extent to which technology fosters transformation depends on its pedagogical integration (Javed, 2024; Vindaca & Lubkina, 2020). Javed (2024) further argues that active and transformational learning is an essential education component, specifically in digital transition.

Transformative learning involves critical reflection that challenges existing assumptions, resulting in a fundamental shift in how individuals perceive the world. This type of learning is conceptualized as a process through which learners alter their perspectives, as demonstrated by the ways they value various forms of knowledge (Wang, Torrisi-Steele, & Reinsfield, 2021). Mezirow promoted perspective transformation (the cognitive and affective or emotional domains. This theory has been used to study the link between students' use of e-learning systems and transformative learning. Transformative learning involves learners critically reassessing and redefining their experiences, leading to new perspectives and self-realization. Meanwhile, the use of e-learning systems such as LMSs has been known as useful for engaging learners through collaborations and discussion, which are critical for influencing their learning outcomes. Regarding the link between e-learning and transformative learning, a study by Pavlakou et al., (2019) explored the integration of transformative learning principles within e-learning environments for adult education and found that asynchronous distance learning effectively supports transformative learning process by removing spatial and temporal constraints, allowing learners to engage with content at their own pace and convenience.

The authors further argue that the use of e-learning is fully in line with the principles of transformative learning. Digital technologies, especially e-learning, make learning interesting, more accessible, and allow flexibility for the learner. E-learning was evaluated from a viewpoint of the students' usage of the e-learning platforms in this study. In the light of this paper, e-learning is discussed various terms that are used to describe educational computer software applications; for example, e-learning system, course management system (CMS), virtual learning environment (VLE), and/or learning management system (LMS). The use of e-learning systems has been attributed to equipping students with knowledge and skills, improving institutional productivity, and creating new employment opportunities, among others (Kisanjara et al., 2019). Through the LMS, instructors can blend and flip classes thus enabling students to learn anywhere, anyhow, and anytime. It is possible to speculate that almost all higher education institutions use certain types of e-learning. As such, LMSs and authoring software have become the most used e-learning tools. According to radixweb.com, LMS are the most used e-learning tools by far (89%) compared to other e-learning tools. Many universities in Africa have been using different types of LMSs such as Moodle, Blackboard, Edmodo, and Canvas among others. In the case of Tanzania, the first use of LMS happened at the University of Dar es Salaam in 1998 where 402 courses were uploaded to the Blackboard system. As of now, many universities in Tanzania are known to be using e-learning systems to assist learning (Mtebe & Raphael, 2018).

Mzumbe University, a public institution situated in the rural Morogoro region of Tanzania, officially adopted the Moodle Learning Management System (LMS) in 2009 to support both academic and administrative functions within its e-learning framework. The university has two campus colleges in Mbeya and Dar Es Salaam regions. The platform has been used by instructors to blend course delivery by offering some of the learning resources and activities. The reason for using the term e-learning technologies is due to the fact that they give learners some degree of control over the type of content that they learn about, the order that they learn it in, the rate at which they learn it and when they learn it; allowing the learner to create their own learning experience tailored to what they feel is best suited to achieve their learning objective(s) (Jethro, Grace, & Thomas, 2012). Through LMS, students are engaged in discussion forums, group discussions, assignments, and testing modules. This study examines students' perspectives on the use of the Moodle Learning Management System (LMS) as a tool for enhancing transformative learning in a rural setting. Specifically, the study examines students' ability to access and utilize the platform, identify challenges faced by students in using Moodle LMS, and quantify students' perceptions of the features offered by Moodle LMS.

Objectives of the study

The overall objective of this study was to investigate students' perceptions of Moodle as a tool for enhancing transformative learning in a rural university in Tanzania**.** Specifically, the study examined students' ability to access and utilize the platform, quantified the most prominent challenges faced by students in using Moodle, and examined students' perceptions of the features offered by Moodle as a tool for enhancing transformative learning.

Significance of the study

This study is significant as it provides valuable insights into the effectiveness of the Moodle in facilitating transformative learning in a rural university setting. By examining students' perspectives, the study highlights the accessibility, usability, and quantifies prominent challenges associated with Moodle LMS, offering crucial data for improving digital learning experiences. The study is unique as it takes a quantitative approach, using RII, to quantify the challenges facing rural university students in using the Moodle LMS as a tool for enhancing transformative learning. Additionally, the findings may contribute to both theoretical and practical discussions on e-learning by showcasing how students interact with Moodle LMS, particularly in resource-limited environments. Understanding students' experiences enables educators and policymakers to develop strategies that enhance engagement, accessibility, and digital literacy among students, especially those in rural settings. The study also informs university administrators, educators and instructional designers on necessary improvements, such as optimizing Moodle's features, addressing technical barriers, and enhancing digital learning resources. Furthermore, the study adds to the growing body of research on technology-enhanced education by demonstrating the role of LMS platforms in fostering self-directed learning and flexibility in the lights of transformative learning theory. This study provides a foundation for future research on digital learning strategies in rural universities and can serve as a reference for institutions seeking to improve their e-learning systems for a more inclusive and effective learning experience.

Delimitations of the Study

This study investigated students' perspectives on the use of the Moodle LMS as a tool for enhancing transformative learning in a rural university in Tanzania. As such, the study drew from

the lived experiences of students in a rural university. The participants involved in the study included undergraduate students from various schools and faculties in the three campuses of a rural university. The participants of the study showed varied experiences in using the Moodle LMS as a learning tool. The advancement of educational technologies, changes in pedagogical approaches, and the demand for flexibility in education and work settings are key drives for the use of e-learning (Matthew, Kazaure, and Okafor, 2021); it is not yet clear if the uptake of e-learning corresponds to such changes, especially among students in poor resource countries such as Tanzania. Consequently, the overall objective of the study was to investigate the perspectives and experiences of the students on learning through the e-learning platform. The literature surveyed in the current study is centred around the key objectives of the study identified. The following section explains various studies related to the study in investigation

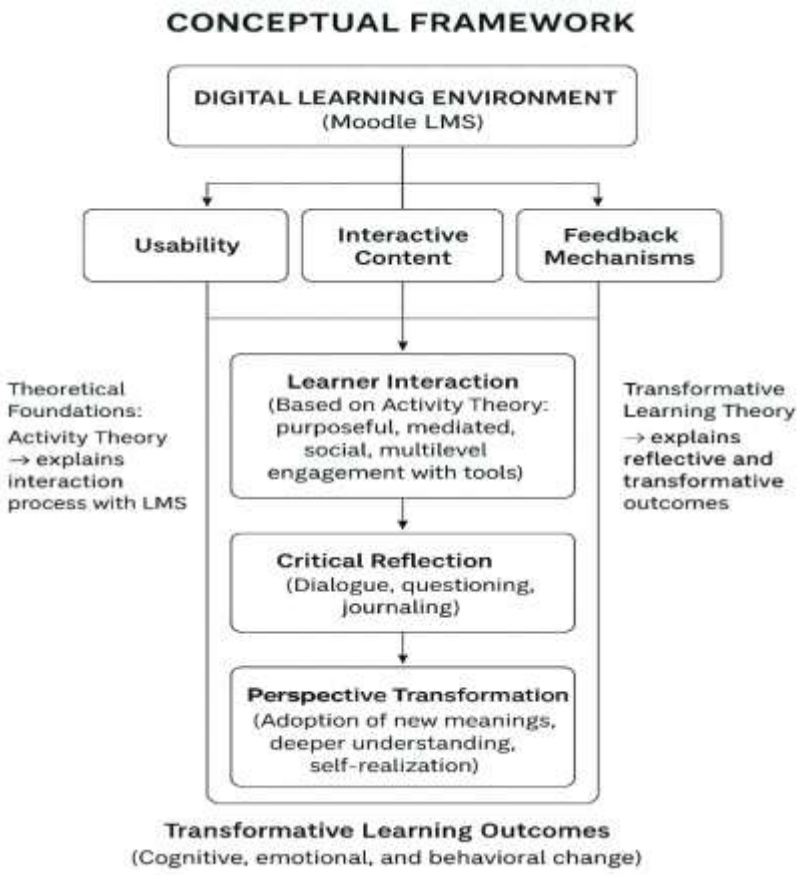
Theoretical Framework of the Study

The novel methods of using digital technologies and their integration into learners' lives require a theoretical framework. Accordingly, this study was guided by Mezirow's (1991) transformative learning theory, which promotes perspective transformation in learning. The theory advocates for critical reflection, dialogue, and the adoption of new, and more inclusive perspectives. It has been applied to examine the relationship between students' use of e-learning systems and transformative learning. This theory encourages learners to critically reassess and redefine their experiences, leading to new perspectives and self-realization. It is primarily used to describe students' perspectives and experiences. The theory emphasizes the importance of critical reflection on experiences, challenging assumptions, and undergoing profound changes in perspective. The Moodle (LMS) facilitates reflective learning through discussion forums, wikis, and online journals, enabling students to question their beliefs, engage in meaningful discussions, and deepen their understanding.

Additionally, the study used the Activity Theory (Mwanza & Engeström, 2005) which focuses on the interaction between humans and computers. The Activity Theory describes the potential impact obtained when one uses new tools such as digital tools (e.g., LMSs) as vehicles to assist learning. Based on Activity Theory, this study postulated that learners' actions are purposeful, social, mediated, multilevel, and developed through interaction between subjects and the objective world. As such, the availability and usability of the e-learning platform can have an impact on how students use the system. The presence of interactive content, a user-friendly interface, and the feedback provided by the system and the instructors may affect how students interact with the system (Zanjani, (2017). Figure 1 explains the interrelations of the key constructs obtained from the transformative and the activity theories in explaining Moodle LMs as a tool for transformative learning. From the figure, the LMS digital learning environment is characterized by usability, interactive content, and feedback mechanisms which in turn influence learner interaction, critical reflection and perspectives transformation and in the end lead to transformative learning outcomes.

Figure 1

A conceptual framework based on transformative and activity theories



Learning Management Systems (LMSs) as Tools of Transformative Learning

The availability of the LMS is not enough in itself if students cannot make use of it. For learning to occur through such systems, students must be able to use them. Various studies have investigated the ability of students to use LMSs. For instance, a study by Moreno, Cavazotte, and Alves (2017) investigated university students' effective use of e-learning platforms in Brazil. The study showed that computer self-efficacy was key in influencing students' intention to use LMSs. The use of such a system also depended on the interactivity and facilitating conditions. However, the cited study did not focus on students' actual use of the LMS but on the intention to use it, a gap that the current study intended to explore.

Additionally, LMSs are meant for active and transformative learning; nevertheless, studies show that they are still underutilized. A study by Costa, Alvelos, and Teixeira, (2012) in Portugal, reported that students were found to be using Moodle as a repository system though such students still recognized other functionalities of the system. The use of the e-learning platform as a repository has been reported by other studies in Tanzania (Almasi et al., 2025; Almasi, 2022; Almasi, Machumu, & Zhu, 2021; Landa et al., 2022). In such cases, the LMS was used as a means to store and access learning materials as opposed to interactive and engaging learning activities. However, the cited studies did not study the students' perspectives regarding their Moodle LMS

use, abilities and experiences. This study indented to inform empirical evidence regarding students' abilities and experiences in using the Moodle LMs in a rural setting.

Interestingly, there are various advantages accrued from the use of e-learning platforms. Still, researchers have reported various challenges related to the use of such platforms. For instance, a study by Mahyoob (2020) among university students in Saudi Arabia reported challenges such as technical, academic, communication challenges, low internet speed, difficulty in accessing online classes, limited access to class materials, downloading failures, and failure to play video and audio. Similar challenges have been reported by Casillano, (2019) in Philippines and Sarker et al., (2019) in Bangladesh who found poor internet as among the key constraints for students to access the LMS. Additionally, a study by Kaisara and Bwalya (2021) in Namibia found that e-learning system accessibility, e-learning platform layout, resources to access the internet and network, isolation, and home environment as challenges faced by students attending online classes. Nevertheless, such studies did not quantify the challenges students face when using Moodle LMS. The quantification of such challenges using the novel Relative Importance Index (RII) approach enabled the identification of the most prominent challenges from the students' perspectives. Again, using transformative learning theory as a guide gave this study a unique perspective in liking e-learning and transformative learning.

Students' Perceptions Regarding the Use of LMSs

Regarding students' perceptions, the literature reports varied views on students' use of LMS. For instance, the study by Mohammed (2020), found that students perceived themselves as having a highly positive attitude towards the e-learning system. The positive attitude was attributed to the ability of the system to be used anywhere, anytime, and its adaptability to the aims of improving communication and enriching students' learning experiences. In another study of perceptions and experiences of students on the use of interactive online learning technologies in Mauritius, Ramkissoon, Belle, and Bhurosy (2020) reported that students perceived and preferred to use social media tools such as WhatsApp and Facebook to Moodle platforms. These students reported that they found social media tools to be more user-friendly, confidential, and more easily accessible than e-learning platforms such as Moodle LMS. The students reported further that they wanted to have their identity group of students with whom they could communicate and share their work. The findings of the cited study show that students have different preferences and perceptions when it comes to the use of LMS.

In case of Tanzania, the study by Ndibalema (2025) on perspectives regarding the use of learning management systems in higher learning institutions in Tanzania, found that inadequate digital infrastructure, limited access to digital devices, and restricted internet connectivity were the key challenges facing students and instructors when using LMSs. On the contrary, the study by Mwakangala (2024), which involved 756 students from University of Dodoma found that students had technical abilities, adequate digital literacy, positive attitude towards e-learning usage, and high access to internet when engaged in learning through e-learning platforms. Meanwhile, Mtakyawa & Banele (2024), using a sample of 374 respondents, reported the same positive perception regarding the use of Moodle LMS among university students from the College of Business Education in Dar Es Salaam, Tanzania. Nevertheless, as opposed to the previous studies, this study used a quantitative approach and a larger sample to explore abilities, perceptions and challenges of using Moodle LMS among the rural university's undergraduate students.

RESEARCH METHODOLOGY

This section describes the research approach, design, and the rationale behind methodological choices to ensure the validity and reliability of the findings**.**

Research Design

This study adopted a design of cross-sectional research. A survey was conducted among students at a rural university, Mzumbe University, involving its Main Campus in Morogoro, and the two other campus colleges in Mbeya and Dar es Salaam regions in Tanzania. The quantitative approach was chosen to provide statistical insights into the prominence of challenges related to the use of Moodle LMS, addressing gaps in previous studies that predominantly relied on qualitative analyses or small samples. Again, this research studied undergraduate students from the first to third year levels of education in all academic fields available at the university. The cross-sectional research design used in this study enabled data collection at a single point in time through structured questionnaire. This was done to provide a comparative analysis on the ability of students to use the Moodle LMS, their perspectives and the challenges they face when using the LMS (Kesmodel, 2018). Such a design also enabled to examine the extent of Moodle LMS's use among students as indicated in the study objectives.

Population

The study population contained university students studying various degree programmes at a rural university in Tanzania. These students represented a diverse demographic in terms of age, gender, academic discipline, and year of study. The population comprised of students aged 18 to 35+ years. The target population contained students who studied courses which utilized Moodle LMS to support and assist student learning. Participants were selected based on their active engagement in online and face-to-face academic activities as indicated in the log files obtained by a team of e-learning experts.

Sample and Sampling Techniques

This study involved a sample of 1412 undergraduate students from a rural university in Tanzania. A survey was issued at the end of the 2023 semester to all students from the three campuses and all students were provided with an equal chance to participate. However, only 1412 student participants responded to the survey provided mainly through Google forms. This may suggest that the sample is biased, as it reflects the views of those motivated to respond, not necessarily the whole student group (Lohr, 2021). Nevertheless, the participation was voluntary for all the participants. To correct the voluntary response bias, the researchers encouraged more students to respond and opened a chance to use hard copies for those who could not be able to respond online (Lohr, 2021). In the context of this study, the demographic information of the students consisted of academic units, programme level, programme name, year of study, gender, and age of respondents. Out of the 1412 students, 843 (59.7%) were male and 569 (40.3%) were female. Concerning age, 877 (62.11%) students were aged between 18-23 years old, 428 (30.31%) students were between 24-30 years old, 58 (4.11%) students were between 31-35 years old, and 45 (3.19%) students were above 35 years old. This shows diversity in terms of the age of the participants.

Data Collection and Instrumentation

This is a quantitative descriptive study in which quantitative data were obtained through a survey that contained 18 items related to students' demographics such as courses and programmes studied, gender, campus, school, etc. Also, the students were asked to respond to questions related to their

ability, perceptions, experiences in using the system, and challenges they faced. The items were rated using a Likert scale ranging from Strongly Disagree (5) to Strongly Agree (1).

In terms of reliability, Cronbach's alpha was used to measure it. The overall Cronbach's alpha for the questionnaire was 0.53, which falls below 0.7. However, it may still be considered marginally acceptable in social and educational studies such as this one (Taber, 2018). Validity was examined through Exploratory Factor Analysis (EFA). Convergent validity, assessed using Average Variance Extracted (AVE) and Composite Reliability (CR), indicated that all factors achieved AVE values above 0.50 and CR values exceeding 0.70, thereby satisfying established criteria. Discriminant validity, evaluated using the Fornell Larcker criterion, showed that the square root of each factor's AVE was greater than its inter-factor correlations, confirming that the factors were conceptually distinct.

DATA ANALYSIS AND INTERPRETATION

Data were analysed using descriptive statistics and Relative Importance Index (RII)**.** The collected data were analyzed using MS Excel. To obtain the demographic information of respondents as well as information regarding the ability of the students, experiences, and perceptions regarding system use researcher used descripted data analysis techniques. Relative Importance Index was used to analyse objective (3) on the challenges of using Moodle LMS. The descriptive analysis provided frequency of use, mean scores indicating usage, and whether differences exist across the various academic units and other key demographic characteristics. This was done for the first and second objective. The Relative Importance Index (RII) was used to rank challenges based on the frequency or significance as reported by students. The RII was calculated using the formula.

$$\mathrm{RII} = \frac{\sum \mathrm{W}}{\mathrm{A} \times \mathrm{N}}$$

Whereas W represents weight assigned to each challenge (based on response frequency), A represented highest possible weight (in this case, the highest frequency response) and N = total number of responses. In this paper, the interpretation of the RII for each indicator was adopted from (Boakye & Adanu, 2022; Boakye et al., 2023) in which High (H) scores ranged from [0.8<RII<1.0], High-Medium (H-M) [0.6<RII<0.8], Medium (M) [0.4<RII<0.6], Medium-Low (M-L) [0.2<RII<0.4] and Low (L) [0.0<RII<0.2].

FINDINGS

Students' Access to and Usage of Moodle Platform

The one of key research objective was to examine students' ability to access and usage of the Moodle LMS. Concerning the ability of the students to use Moodle LMS, the researchers first established whether students accessed and used the Moodle LMS or not. The findings revealed that out of 1412 students, 1367 (96.8%) students agreed that they were using the platform and 45 (3.2%) students reported that they did not use the platform. This means most students (96.8%) who responded to the survey have used LMS. This was important to establish to check the students' ability to utilize the platform.

After establishing whether students used the Moodle platform or not, the study examined how the students felt regarding various functionalities of the platform. The findings further revealed that 284 (20.1%) students reported being excellent in participating in the discussion forum, 612 (43.3%) students responded as satisfactory in the discussion forum, 439 (31.1%)

students needed improvement, and 77 (5.5%) students reported that they did not know how to access and participate in the discussion forum. This means that some students (43.3%) felt satisfactory with the online discussion forums. When combined with those who felt excellent, most students (60.4%) could be said to be satisfied with the use of online discussion forums. Regarding the frequency of access, the findings further revealed that 537 (38%) accessed it weekly, 470 (33.3%) accessed the LMS when told by their instructors 345 (24.4%), students indicated that they accessed the LMS daily, and 60 (4.2%) students accessed the LMS monthly. This means most students accessed the Moodle LMS weekly. Daily access of the system also seemed to be encouraging as over 30% of the surveyed students did so.

Students' Perceptions on the Use of Moodle Platform

About perceptions, students were asked how they perceived the use of the Moodle platform as a tool for transformative learning, and the benefits they obtained from it. The findings revealed that most students, 897 (63.5%) found the LMS to be user-friendly, 342 (24.2%) did not find it user friendly, and 173 (12.3%) students were not sure if the system navigation was user-friendly or not. This suggests that most of the students could easily navigate through the Moodle platform. The findings of the current study revealed further that most students, 832 (58.9%) students responded that it was easy to locate and access learning resources and a minority 140 (9.9%) students responded that it was very easy to locate and access learning resources. On the other hand, 376 (26.6%) students reported that it was not easy to locate and access learning resources, and 64 (4.5%) students responded that they did not know anything regarding their ability to locate and access learning resources. Though most students found it easier to locate the learning materials, attention should be paid to those who reported that they do not find it easier. This means that the university support team should continue to provide training to such students.

Challenges Faced by Students in Using Moodle Platform

Regarding the challenges, students were asked to identify the challenges they encountered when using the Moodle LMS. The analysis was done first qualitatively and then by using the Relative Importance Index (RII) to find the most prominent challenges. The results of the raw data showed that unavailability of learning materials had the frequency of 549, failure to self-enroll in courses – 398, failure to submit assignments – 308, not knowing how to use the system – 122, internet problems – 47, Login challenges – 38. The RII was computed to find the most prominent challenges.

Based on the computed RII for the challenges mentioned, the RII values for the key challenges, ranked from most to least significant showing the following; Unavailability of learning materials – 1.000 (High), was the most critical challenge while failure to self-enroll into courses – 0.725(High Medium) was found to be a critical challenge, suggesting that a significant number of students faced difficulties in submitting assignment, though this was not critical. Subsequently, the unavailability of learning materials was noted to be the most significant challenge followed by self-enrollment issues. On the other hand, challenges such as unfamiliarity with the system (0.222, Low), internet connectivity issues (0.086, Low), and login difficulties (0.069, Low) were found to be non-critical. This suggests that these challenges were less significant for the students. Internet-related issues and login difficulties ranked considerably lower in importance based on students' feedback.

DISCUSSION

This study examined students' perspectives on the use of an e-learning platform (Moodle LMS) as a tool for enhancing transformative learning in a rural setting. The discussion is centered on the ability of students to access and utilize the platform, the challenges they face when using the system, and the perception of the students towards the use of the platform features. Analysis of students if they have ever used Moodle LMS, how frequently they accessed the LMS, which device(s) they used to access the LMS, and whether/if the system is user-friendly. Also, students' rating of their experiences on using the LMS, what they mostly liked about learning through the LMS as well as rating themselves on the ability to access learning resources, ability to access and submit assignments, ability to access and participate in online discussion forums, and ability to access and attempt quizzes/tests. Further, challenges faced by the students when utilizing various features of e-learning, and their perceptions towards the e-learning system are analyzed and reported.

Students' Access to and Usage of Moodle Platform

Regarding students' access usage of the Moodle LMS, the findings indicated a remarkably high level of usage of the platform among students, with 96.8% of the students studied reporting active use. This suggests that the platform has gained wide acceptance and is integrated into students' learning practices. A minor proportion of students who did not use the platform could be facing different challenges. However, the results of this study underline the platform's relevance in supporting learning, while also pointing to the need for further exploration of the factors preventing complete adoption.

Further, most students (60.4%) reported to be satisfied with the use of online discussion forums. This suggests that students find online discussion as a useful collaborative learning environment. As such, this finding agrees with the transformative learning theory which proposes that educational technology supports transformative learning by providing interactive, and reflective learning experiences (King, 2002; Javed 2024). This was evidenced by Ndibalema (2025) who conducted a study involving students from two higher education institutions in Tanzania. Participants in this research report that they critically analyzed their peer's assignment and made suggestions for how the peer could improve based upon the analysis. Contrary to the studies by Costa, Alvelos, and Teixeira, 2012; Almasi, Machumu, & Zhu, 2021) which found students to be using e-learning platforms as repository; the current study showed a slight improvement towards more interactive features such as discussion forums.

The findings of this study indicated that there was a chance for Moodle LMS to be used as a tool for transformative learning. The increased access and usage of Moodle platform among students in Tanzania has been reported by other studies including (Almasi et al., 2024; Almasi et al., 2025). The findings of the current study which indicated an improved usage of e-learning platforms could be an indicator of increased motivation to use the platforms for enhancing learning. As such, instructors need to leverage the use of such platforms for enhancing transformative learning among students.

Regarding high weekly usage, similar findings have also been noted in other studies. For instance, the study by Ramkissoon, Belle, and Bhurosy (2020), in Mauritius, found that majority (42.6%) of them accessed it at least once weekly, a small minority, 23.6% of the students used Moodle at least thrice weekly, 20.3% of them at least once a month, 4.6 % of them at least once a semester and 9% did not make use of it at all.

Perceptions of Students Regarding the Use of Moodle E-learning Platform

In the second objective of the study, it was observed that most of students found Moodle platform to be user-friendly when navigating for accessing learning content. This implies that students found it easier to use the platform. This finding aligns both the activity theory and with the study of Zanjani (2017) who studied important elements of LMS design that affect user engagement with e-learning tools within LMSs in the higher education in Australia. The results of the research indicated that the users of the LMS believed that the ease of navigation (or usability), and the flexibility of a variety of student centered, customizable tools, within the LMS design affected the level of user engagement. Based on the activity theory, it was postulated that student interactivity with the LMS is related to its usability. The user-friendly environment in the system allowed students to engage with it as postulated in the theory.

Additionally, Hoerudin et al., (2023), in Indonesia, found that e-learning is an innovative idea in Islamic education and must be encouraged. Generally, most students mostly liked how it is simplified to get materials through the platform, and its use at any time, and they liked free participation in discussions. All these studies provide evidence that students find it easier to navigate and use e-learning platforms. Easy navigation of the system could enhance motivation and sustain learners to continue learning via Moodle LMS (Arshad et al., 2016).

Regarding the minority of students who reported that they found it difficult to navigate through Moodle platforms, studies showed that instructors could play an important role in helping students learn how to navigate and access the materials. This is especially true for beginners, as supported by other studies such as Almasi et al. (2025). Students also reported enjoying the fact that the system can be accessed anywhere and at any time, providing significant flexibility. This is proved by most students who accessed and utilized the Moodle LMS on a weekly and daily basis, as explained in the findings of this study. This tendency may indicate a sense of self-responsibility, suggesting that students were willing to engage with Moodle without external pressure. Such a responsibility is recognized as a strong predictor of flexible attendance in technology-enhanced courses, such as blended learning environments (Meadows et al., 2024). Mohammed (2020) found similar results with his research into the attitudes of students toward e-learning English language instruction, where he found that students felt that there were many advantages to e-learning and had very favorable attitudes toward e-learning.

Challenges Faced by Students in Using Moodle E-learning Platform

While students' interest in using the Moodle platform is evident through their efforts to access and search for learning materials; absence of these materials as the most significant challenge underscores the necessity for instructors to take the initiative in utilizing the platform to provide essential resources and support ongoing learning. The absence of learning materials on the platform can be equated with a lack of instructor presence or teaching engagement (Almasi, Zhu, & Machumu, 2018; Olaguer, 2026; Thamrin et al., 2024), which tends to negatively impact student engagement and motivation. On the other hand, instructors did not provide the required learning materials, which may indicate a lack of motivation on their part (Landa et al., 2022); however, the current study did not explore this angle.

The findings of this study underscore the importance of instructors to reflect on their teaching if they truly want to enhance transformative learning among students. On the contrary, other studies show that students did not find it motivating to go and check lecture notes on such platforms as they require bigger downloading facilities and are time-consuming to load. Instead, such students preferred to use social media applications (Ramkissoon, Belle, & Bhurosy, 2020).

While this may indicate a lack of technical support and insufficient ICT skills among students required to effectively use the LMS, some improvements have been observed compared to the findings from previous studies. For instance, earlier research by Mtebe and Raphael (2013; 2017) and Ndibalema (2024) in Tanzania, Nabaasa and Natumanya (2024) in Uganda, and Mahyoob (2020; Alturise, 2020) in Saudi Arabia reported low internet speeds, difficulties in accessing online classes and exams, technical challenges, insufficient general ICT knowledge necessary for using the LMS, and problems with downloading learning materials as key obstacles faced by students when engaging with the LMS. However, the results indicated overall improvements in internet access, ease in navigating the LMS, and platform usability.

Although students in this study did not report challenges related to a lack of digital skills, some other researches, such as that conducted by Mahyoob (2020), suggested otherwise. Authors of the current study believe that students at the studied rural university may have struggled with certain functions, such as self-enrollment and navigation, due to lack of specific digital skills rather than general ICT skills. In contrast, other scholars such as Mwakangala (2024) found that students possessed adequate digital skills, maintained a moderate to positive attitude towards e-learning, demonstrated sufficient technological capability, and had good access to the internet when utilizing e-learning platforms. Additionally, Mtakyawa and Banele (2024) discovered that most students had a favorable perception of Moodle's usability, learning design, content quality, and interaction at the College of Business Education in Dar es Salaam, Tanzania. Overall, when comparing the findings of this study to other research conducted prior to 2020, significant improvements in various aspects of usage, student capabilities, and general perceptions can be observed.

To a limited extent, issues related to the use of certain Android phones in accessing the Moodle LMS were reported, highlighting the need to recommend specific features for mobile devices that could be compatible with various versions of Moodle. Additionally, some students expressed concerns about the high cost of internet data bundles when accessing the system, the lack of internet access at certain venues, and the overwhelming traffic on the Moodle LMS during synchronous online tests. These reports could not be quantified using the Relative Importance Index (RII) due to their low frequency. This suggests that such challenges were not significant and were experienced by only a minority of students. Similar findings have been documented in studies by Sarker et al., (2019) and Casillano (2019), which identified poor internet connectivity as a key constraint for students to access the LMS in Bangladesh and the Philippines.

CONCLUSION

This study examined students' perspectives on the use of Moodle LMS as a tool for transformative learning in a rural university setting. The Moodle LMS has been embraced by most participants involved in this study as a learning tool, suggesting that it might be a useful asset in a remote environment. However, usage patterns vary significantly, with the majority using it weekly, some using it every day, while others (a minority) using it only when instructed by teachers. This implies that measures to promote more regular and autonomous platform use are required. Based on the findings, another conclusion is that students generally perceived Moodle LMS positively, finding it user-friendly and beneficial for accessing learning materials. Such students find online discussion as a useful collaborative learning environment which could be useful in transformative learning. This suggests that instructors could make use of the collaborative Moodle LMS tools such as wikis, discussion forums and interactive workshops to enhance, sustain and transform students' learning.

Nevertheless, challenges such as unavailability of learning materials, and issues of students finding it difficult to perform self-enrolment into the courses point to the fact that instructors have not made effective use of the LMS, on the one hand, and the need for technical support to students in the case of self-enrolment, on the other hand. Therefore, there is a need for instructors to take active role and continue to sustain students' positive perception of the LMS, thus enhance more usage. Generally, there has been improvements in some factors such as internet access and low digital skills which were previously dominant in many e-learning studies in Tanzania. The findings of this study need to be interpreted with caution as the participants volunteered to participate in the study. This could have a voluntary bias effect explained in the method section. Lastly, whereas the overall usage of Moodle LMS is high, the findings suggest varying levels of technical proficiency among students. This highlights importance of providing appropriate digital literacy support and training to maximize the use of LMS among students for enhancement of transformative learning. The high usage of Moodle LMS among students in a rural university suggests that students even in poor resource contexts such as Tanzania can and do learn via e-learning platforms. Based on this study, researchers can explore as to why there is little interest among the instructors in the usage of the LMSs for facilitating learning regardless of the fact students seem to be highly interested.

RECOMMENDATIONS

As the study's highlighted that the Moodle platform is highly utilized by students, there remains a need to continuously promote instructors to increase their engagement with the platform, as their usage has been comparatively limited. Further, though using LMSs for aiding learning is not technological skills, students' need to be proficient in the use of LMS for learning. Lower levels of digital literacy in using LMS may, sometimes, hinder students from accessing the LMS. This entails that higher learning institutions should train and prepare students to use the LMS as soon as they get into the institutions. The fact that students' high use of the Moodle LMS is encouraging, continuous training and support in areas related to navigation of the system and utilization of some features such as self-enrollment and submission of assignments is imperative. Students need to be encouraged to make more use of collaborative features that would aid transformative learning. As the findings showed that students generally perceived Moodle LMS positively and found it user-friendly and beneficial for accessing learning materials. This study recommends a continued integration of online collaborative tools that would increase students' engagement. Since the presence of various policies, guidelines and strategic plans regarding the use, application, management, monitoring and utilization of LMS as teaching and learning tools in Tanzania at both institutional and national level seems to play a great role in enforcing e-learning features utilization, higher learning institutions need to develop technology enhanced programmes such as blended learning course/programmes and online programmes that would necessitate more interactive use of e-learning features in platforms.

Regarding absence of learning materials and failure of some students to self-enroll into their respective courses in the Moodle, there is a need to improve content availability and course design. Instructors need to be guided to use course design templates to upload essential learning materials, design interactive courses, and make use of various open educational resources available inside and outside the institutions. Moreover, there is a need for continuous enforcement towards instructors' engagement. This can be done by establishing internal systems to monitor course activity and provide support where instructors are less active or struggling. This may go hand in hand with providing continuous professional development for instructors on integrating Moodle

tools (e.g., wikis, discussion forums, quizzes) into their teaching. Finally, higher learning institutions need to develop microlearning modules such as short videos or guides on basic LMS tasks like enrolment, uploading assignments, or participating in forums. Such microlearning content can be shared through various dedicated sources such as institutional YouTube channels and Moodle platform.

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ACKNOWLEDGMENT

The writer is grateful to the HEET Project for enabling the researchers to collect and use the data for preparing this research. We would also like to thank the HEET Project instructional designers for assisting in the data analysis.