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Effectiveness of Online Learning Platforms on Promoting Quality Learning in Higher Learning Institutions in Arusha Region, Tanzania

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Abstract: *The current study was conducted to examine the effectiveness of online learning platforms in promoting quality learning in higher learning institutions in Arusha region. Specifically, the study examined the effectiveness of the online learning platforms in enhancing teaching and learning activities and pointed out strategies for improving the application of online learning platforms in higher education institutions. Technological Acceptance Model guided the study and a cross-sectional design was adopted. The target population included 4573 students and 427 lecturers from four universities. Simple random and stratified sampling procedures were used to obtain the study sample that consisted of 82 students and 16 lecturers. The study used questionnaires as tools for data collection and the questionnaires were piloted to estimate their reliability and improve validity.The Cronbach results produce reliability score of 0.74. The collected data were analyzed using descriptive analysis and presented using tables and charts. The study found out that most students and lecturers agreed on the widespread use of Moodle for student learning, suggesting its effectiveness and broad acceptance within the educational environment. The study found that the majority of students and lecturers agreed that these platforms facilitate the search for academic content. It was concluded that online learning platforms are widely used in higher education institutions in Arusha region and are considered to be effective on enhancing students' learning. The study recommended for university management to implement training programmes for lecturers to equip them with the necessary skills to effectively integrate online learning platforms into their teaching practices.*

Keywords: *Online, Platforms, Quality, Institutions, technology, Tanzania*

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1. Introduction

Online learning platforms have emerged as transformative phenomena for improving access to and reducing the costs of offering higher education (Ahmed, 2016; Bond et al., 2021; Haleem et al., 2022). Particularly, online learning platforms constitute an innovation in educational technology designed to deliver and access education through virtual learning systems that do not require physical interactions (Basri, 2018). Online learning

platforms are designed to allow access to teaching and learning resources and improve the quality of education (Ahmad, 2016; Budhwar, 2017). Some commonly used online learning platforms for higher education include Moodle, Canvas, and Blackboard Learn, which all offer tools for course management, content delivery, communication, and student assessment.

Online learning platforms are widely utilised by Higher Education Institutions (HEIs) in developed countries. In Europe, developed countries such as Norway and the Netherlands have a strong tradition of utilising online learning. For instance, in Norway, HEIs such as the University of Oslo and the Norwegian University of Science and Technology utilise online learning platforms such as Canvas to deliver courses and facilitate communication between students and course instructors (Torris et al., 2022). Similarly, in the Netherlands, HEIs such as the University of Leiden and Delft University use online learning platforms such as Canvas to support blended online courses. In North American countries such as the USA and Canada, HEIs such as Harvard University, Stanford University and the University of Toronto offer blended online courses using Canvas, edX and Coursera (Wotto, 2020).

Asian countries such as India, and China are adopting instructional technology to improve the learning process at all levels. China has advanced in virtual learning through tablets and virtual technologies (Ramadhani, 2019). For instance, in India, several HEIs such as Manipal University, Alagappa University, Aligarh Muslim University and Jain University offer education via online learning platforms such edX and Moodle (Goswami et al., 2021). In Brazil, online learning platforms for HEIs have increased following the wake of the global pandemic of COVID-19 in 2020. Due to lockdown restrictions, at least 90% of HEIs applied online learning platforms such as Moodle and Google Classroom (Barbosa et al., 2023).

In Arusha Region, HEIs increasingly use online learning platforms in teaching and learning activities. Such HEIs include the Institute of Accountancy Arusha (IAA) and the Open University of Tanzania (OUT). While offering blended programmes through online learning, the OUT used online learning in all of its programmes for master's and undergraduate students. However, concerns have been raised about online learning platforms. For example, Mtebe and Raphael (2018),Anasel and Swai (2023), and Innocent and Masue (2020) have shown the limited application of e-learning platforms in universities in Tanzania, leading to poor learning experiences. Limited application is attributed to limited computer skills and a shortage of ICT facilities. On the contrary, Mahai (2022) has shown that online learning platforms such as Moodle, Zoom, and WhatsApp have improved class attendance, student-tutor interaction, and participation in higher learning institutions such as the Open University of Tanzania. Similarly, Kibelloh (2021) has observed that despite the potentiality of e-learning platforms in Tanzania, much attention is placed on pitfalls rather than finding improvement solutions. Despite the contributions of previous studies, much of the previous research has dwelled on challenges, readiness, and applications. Knowledge gaps still exist regarding the effectiveness of online learning platforms in promoting quality learning in HEIs in the Arusha Region.

1.1 Research Questions

The study was conducted to answer the following research questions

1. To what extent are the online learning platforms effective in enhancing teaching and learning activities in higher education institutions in Arusha Region?
2. What strategies can be applied to improve the application of online learning platforms in higher education institutions in Arusha Region?

2. Literature Review

The theoretical and empirical literature was reviewed with reference to themes created from research questions. The study was guided by the Technology Acceptance Model (TAM), developed by Fred Davis in 1989.

2.1 Technology Acceptance Model (TAM)

The model offers a comprehensive framework for understanding users' acceptance and adoption of new information technologies. TAM posits that perceived usefulness and perceived ease of use are pivotal factors influencing an individual's intention to use a technology, which subsequently impacts their actual usage behavior (Davis, 1989). Perceived usefulness reflects the user's belief that adopting the technology will enhance their performance or productivity, while perceived ease of use pertains to the user's perception of the effort required to utilize the technology. TAM operates on the premise that users are rational decision-makers who evaluate the utility and usability of a technology before embracing it.

2.1.1 Strengths of Technology Acceptance Model

In the context of the current study investigating the effectiveness of online learning platforms in promoting

quality learning in lighter learning institutions in the Arusha Region, TAM provides a pertinent theoretical framework. By assessing perceived usefulness and perceived ease of use, the study aims to discern educators' and students' attitudes and intentions towards adopting these platforms. For example, educators may perceive online platforms as valuable tools for facilitating various teaching and learning activities, while students may view them as convenient resources for accessing course materials and engaging in interactive learning experiences. TAM enables a comprehensive exploration of stakeholders' acceptance and adoption behaviors in the context of online learning platforms.

2.1.2 Application of Social Constructivism Theory

Despite its limitations, TAM remains a valuable framework for investigating the acceptance and adoption of online learning platforms in HEIs in the Arusha Region. By identifying the factors influencing stakeholders' intentions to use these platforms, the study can inform strategies for enhancing their implementation and effectiveness. Furthermore, insights derived from TAM can guide the development of interventions aimed at promoting technology acceptance and usage among educators and students, ultimately contributing to the advancement of quality learning in the region.

2.2 Empirical Review

This section presents the empirical studies with respect to research themes derived from research questions.

2.2.1 Effectiveness of Online Learning Platforms in Enhancing Teaching and Learning Activities in Higher Education Institutions

Sun et al (2022) investigated the relationship between postgraduates' information literacy, online platforms, online knowledge-sharing processes, and innovation performance. Using Biggs's 3P learning model, the study surveyed 501 Chinese postgraduates and analyzed questionnaire data. Findings revealed that information literacy positively predicted innovation performance, with quality-oriented online knowledge sharing processes demonstrating better results than quantity-oriented ones. The study also highlighted the mediating effect of online learning processes on postgraduates' innovation performance. Anthony (2024) examined students' perception towards Blended Learning (BL) integration and its influence on learning performance. Employing the Technology Acceptance Model (TAM) and Information System (IS) success model, the study surveyed 1169 students and analyzed data using Partial Least Square-Structural Equation Modeling (PLS-SEM). Results indicated that system quality, information quality, and service quality significantly influenced students' acceptance of BL, which in turn affected learning performance.

Sari (2022) conducted a qualitative study to analyze the effectiveness of online learning during the COVID-19 pandemic among English teachers and students in Karimun, Indonesia. Using observation checklists and interviews, the study identified both positive and negative responses to online learning. While online learning offered flexibility and access to additional resources, concerns were raised about its effectiveness and students' ability to grasp learning materials. Githae (2022) investigated the factors influencing journalism students' self-efficacy for online journalism. Employing a mixed methods approach, the study surveyed 182 students, conducted focus group discussions, and analyzed online journalism modules. Results indicated that industry experiences, training resources, and online attitudes significantly predicted students' self-efficacy for online journalism. Otieno and Ayubu (2023) investigated the influence of technological advancement on quality education in higher learning institutions in Arusha Region. Using a mixed methods approach, the study surveyed 64 students, interviewed course instructors and technology experts, and analyzed questionnaire data. Findings highlighted the positive impact of technological advancements on teaching materials access, student creativity, and learning opportunities, especially during pandemics.

2.2.2 Strategies for Improving the Application of Online Learning Platforms in Higher Education Institutions

Brown et al. (2020) explored proactive strategies to improve student engagement in online learning environments, particularly for low-engaged students, through the use of course learning analytics (CLA) and nudging strategies. The authors developed a conceptual framework prioritizing expectation management and engagement principles based on theoretical perspectives of communication and critical literacies. The framework emphasizes accessible, time-efficient approaches to support both academics' and students' engagement in online courses. Werang (2022) investigated students' perceptions of online teaching during the COVID-19 pandemic, employing a quantitative survey approach among students enrolled in the Indonesian Language and Literature Education Department of Musamus University. The study found mixed perceptions among students regarding access to personal devices and internet

connectivity but indicated positive responses toward teaching materials and interactive learning strategies. However, the study's focus on student perceptions may overlook crucial insights from educators' perspectives, limiting the identification of comprehensive strategies for improving online learning platforms. In the current study, both students and lecturers were included to provide a holistic understanding of strategies for enhancing online learning platforms' effectiveness in Arusha Region.

Karim et al. (2022) analyzed the challenges and potentials of implementing online learning in developing countries, particularly during the COVID-19 pandemic. Their study, based on responses from 968 high school and primary school English teachers, revealed that most teachers had negative perceptions of e-learning due to the lack of essential facilities like electricity, electronic devices, and required skills. To address these challenges, the study suggested introducing Information and Communication Technology modules, offering intensive courses for teachers, and developing educational facilities. These recommendations provide useful strategies for improving online learning platforms.

Pascal et al. (2022) investigated effective teaching methods adopted by higher educational institutions during the COVID-19 pandemic in Africa, using a qualitative descriptive case study approach. The study highlighted the satisfaction with teaching and learning methods used in African universities but identified challenges in adapting and applying new teaching methods. Mirata et al. (2022) discussed critical factors for the successful implementation of technology-based learning in higher education institutions, using the case of the Open University of Tanzania (OUT). The study identified technological, pedagogical, organizational, and global challenges in adopting technology-based learning.

3. Methodology

The cross-sectional descriptive design since the aspects of the design allowed assessment of the research problem at a particular point in time, in line with the time requirements of conducting this study. Second, the descriptive nature of the design allowed the research to assess the opinions of HEIs in Arusha Region. The target population included 4573 students and 427 lecturers from four universities.The selection of sample was based on the Yamane formula for sample size determination of 1967which states: $n = \frac{N}{1+N(e)^2}$ (Yamane, 1967).The formula helped to ensure that the research results represent the target population (Kusumwardhana*et al.,* 2022). The formula was presented as follows.

$$n = \frac{N}{1 + N\,(e^2)}$$

Where;

n =Sample Size

N =Target population which is 5000 post graduate students

e = Margin error which is 0.1

Therefore,

$$n = \frac{5000}{1 + 5000\,(0.1^2)}$$

$$n = 98$$

Therefore, the sample size of this study was 98 postgraduate students.Simple random and stratified sampling procedures were used to obtain the study sample that consisted of 82 students and 16 lecturers. The study used questionnaires as tools for data collection and the questionnaires were piloted to estimate their reliability and improve validity.The Cronbach results produce reliability score of 0.74. The collected data were analyzed using descriptive analysis and presented using tables. Before the commencement of data collection, the research permit was sought from the offices of the Principals, directors and Vice-chancellor of the selected HEIs in Arusha Region. Then the permit letter allowed the researcher to access university students for data collection.The researcher did not use information from other writers and organisations without acknowledging them. Sources of all information not owned by the researcher was cited in the text and listed in the references section.

4. Results and Discussion

The findings were discussed according to themes derived from research questions.

4.1 Effectiveness of Online Learning Platforms in Enhancing Teaching and Learning Activities in Higher Education Institutions in Arusha Region

The study aimed at assessing the effectiveness of online learning platform in enhancing teaching and learning activities in higher learning institutions in Arusha Region. In their respective questionnaires, students and lecturers were provided with a Likert scale having 8 statements and requested to indicate their extent of agreement or disagreement with each. Their responses were quantified to generate percentages. During the discussion, the percentage of those who agreed and those who strongly agreed were added up. The same was done to the

percentage of those who disagreed and those who strongly disagreed. The response percentages of students and lecturers to the items in the Likert scale are presented in table 1.

Table 1: Responses on the Effectiveness of Online Learning Platforms

	Strongly agree		Agree		Unsure		disagree		strongly disagree	
	SS	LS	SS	LS	SS	LS	SS	LS	SS	LS
Online learning platforms accessibility helps to search for academic content	46.3	43.8	50.0	50.0	0.0	0.0	1.2	6.3	2.4	0.0
Online learning platforms ensures flexibility in accessing academic content	47.6	37.5	45.1	50.0	2.4	6.3	3.7	6.3	1.2	0.0
Online learning platforms usage and access promotes comfortable learning experience	45.1	37.5	48.8	50.0	2.4	0.0	1.2	6.3	2.4	6.3
Online learning platforms usage enables to access online classes and improve understanding of academic concepts	43.9	37.5	50.0	43.8	1.2	6.3	3.7	12.5	1.2	0.0
Online learning platforms helps to collaborate with fellow students on academic projects	54.9	50.0	41.5	37.5	1.2	6.3	1.2	6.3	1.2	0.0
Online learning platforms helps to improve academic performance	41.5	18.8	36.6	43.8	12.2	12.5	7.3	18.8	2.4	6.3
Internet access helps to access career information related to field of study	47.6	37.5	47.6	50.0	2.4	0.0	0.0	12.5	2.4	0.0
Online learning platforms helps to acquire practical knowledge of courses learn at the university	54.9	43.8	41.5	43.8	0.0	0.0	3.7	6.3	0.0	6.3

Source: Field data (2024) ***Key; SS = students' percentage response; LS = lecturers' percentage response***

Concerning the flexibility in accessing academic content, the data shows that 92.7% of students and 87.5% of lecturers agreed while 4.9% of students and 6.3% of lecturers disagreed. The percentage of students and lecturers who were neutral was 2.4% and 6.3% respectively. The data suggest that many students and lecturers agreed that online learning platforms provide flexibility in accessing academic content. This implies that these platforms are effective in offering flexible access to academic materials, accommodating various schedules and learning preferences. These findings agree with Celik et al. (2022), who noted that online education models provide flexibility of time and space and ease of access to resources. The high percentage of agreement indicates that the platforms enhance the quality of learning by making educational content more accessible. Students and instructors can acquire teaching and learning materials easily. However, the disagreement among a small percentage suggests that some users might face challenges, potentially indicating issues such as technical difficulties or inadequate digital literacy. Internet speed also can be a challenge whereby students cannot do their works on time.

Regarding the comfortable learning experience, the data shows that 93.9% of students and 87.5% of lecturers agreed while 3.7% of students and 12.5% of lecturers disagreed. The percentage of students and lecturers who were neutral was 2.4% and 0.0% respectively. The data suggest that a

large number of students and lecturers agreed that online learning platforms promote a comfortable learning experience. This implies that these platforms are considered to be effective in creating a conducive and comfortable environment for learning. These findings are in agreement with Hollister et al. (2022), who found that students felt more comfortable participating in online classes. The high level of agreement suggests that the platforms enhance the quality of learning by making students more comfortable and engaged. Students get high chance of participating in online classroom discussion. However, the disagreement among some lecturers indicates that not all students and lecturers find the platforms equally effective, which may imply a need for additional support or training.

Concerning the improvement in understanding academic concepts through online classes, the data show that 93.9% of students and 81.3% of lecturers agreed while 4.9% of students and 12.5% of lecturers disagreed. The percentage of students and lecturers who were neutral was 1.2% and 6.3% respectively. The data suggest that a significant number of students and lecturers agreed that online learning platforms enhance understanding of academic concepts. This implies that these platforms are effective in facilitating better comprehension of academic material. These findings align with Narang et al. (2021), who noted that different types of content influence learner engagement in online platforms. The high agreement levels suggest that the platforms significantly enhance the quality of learning by improving students' grasp of complex concepts. Learning and performance improves since students are capable of searching materials from internet throughout the year. However, the presence of disagreement and neutrality indicates that some students and lecturers might experience difficulties, possibly due to varied teaching styles or content delivery methods. On the other hand challenges that students face such as low internet speed, lack of IT expertise lead to low academic performance at the university.

Regarding collaboration on academic projects, the data shows that 96.3% of students and 87.5% of lecturers agreed while 2.4% of students and 6.3% of lecturers disagreed. The percentage of students and lecturers who were neutral was 1.2% and 6.3% respectively. The data suggest that a large number of students and lecturers agreed that online learning platforms facilitate collaboration on academic projects. This implies that these platforms are effective in promoting teamwork and collaborative learning. These findings are in agreement with Al-Jarf (2022), who emphasized the role of online platforms in fostering student collaboration and social interaction. The high agreement levels indicate that these platforms greatly enhance the quality of learning by enabling collaborative work and peer interaction. Students cooperate with each other in discussion sharing knowledge and ideas. However, the small percentage of disagreement suggests that there might be challenges such as coordination issues or lack of familiarity with collaborative tools.

Concerning the improvement of academic performance, the data shows that 78.0% of students and 62.5% of lecturers agreed while 9.8% of students and 25.0% of lecturers disagreed. The percentage of students and lecturers who were neutral was 12.2% and 12.5% respectively. The data suggest that a majority of students and lecturers agreed that online learning platforms improve academic performance. This implies that these platforms are somewhat effective in enhancing students' academic outcomes. These findings are in agreement with Adeyeye et al. (2022), who found that platforms like Zoom and Moodle positively impacted students' academic achievement. The agreement levels indicate that these platforms can enhance the quality of learning by boosting academic performance. The improvement of performance among university students indicates the extent of usage of online learning platforms. However, the disagreement among lecturers suggests that some lecturers do not perceive these platforms as beneficial, possibly due to challenges in effective use or integration into curricula, not all students can access internet depending on the university facilities therefore their performance do not relate with the usage of online learning platforms.

Regarding the access to career information related to the field of study, the data shows that 95.1% of students and 87.5% of lecturers agreed while 2.4% of students and 12.5% of lecturers disagreed. The percentage of students and lecturers who were neutral was 2.4% and 0.0% respectively. The data suggest that a large number of students and lecturers agreed that internet access helps in obtaining career-related information. This implies that online learning platforms are effective in providing career information relevant to students' fields of study. These findings are in agreement with Pordelan and Hosseinian (2020), who noted that online learning prepares students for career fields. The high levels of agreement indicate that these platforms significantly enhance the quality of learning by providing valuable career insights. However, the disagreement among lecturers suggests that some might feel these platforms do not adequately cover career-related content, indicating a potential area for improvement.

4.2 Strategies for Improving the Application of Online Learning Platforms in Higher Education Institutions in Arusha Region

The study also aimed at assessing the strategies for improving the application of online learning platform in higher learning institutions in Arusha region. In their

respective questionnaires, students and lecturers were provided with a Likert scale having 6statements and requested to indicate their extent of agreement or disagreement with each. Their responses were quantified to generate percentages. During the discussion, the percentage of those who agreed and those who strongly agreed were added up. The same was done to the percentage of those who disagreed and those who strongly disagreed. The response percentages of students and lecturers to the items in the Likert scale are presented in table 2.

Table 2: Responses on Strategies for Improvement

Statements	Strongly agree		Agree		Unsure		disagree		strongly ssssdisagree	
	SS	LS	SS	LS	SS	LS	SS	LS	SS	LS
Offering comprehensive training programs for instructors to effectively use online learning platforms.	75.6	62.5	22.0	25.0	0.0	0.0	2.4	6.3	0.0	6.3
Providing continuous technical support to both students and instructors to address any issues with online learning platforms.	68.3	56.3	25.6	31.3	0.0	0.0	3.7	12.5	2.4	0.0
Integrating interactive tools (e.g., discussion forums, live chats, and multimedia content) to enhance student engagement.	69.5	50.0	24.4	37.5	0.0	6.3	4.9	6.3	1.2	0.0
Developing mobile-friendly versions of online learning platforms to allow access via smartphones and tablets.	64.6	50.0	24.4	31.3	1.2	0.0	6.1	18.8	3.7	0.0
Incorporating student feedback to continuously improve the functionality and user experience of online learning platforms.	70.7	43.8	23.2	31.3	1.2	0.0	2.4	12.5	2.4	12.5
Facilitating online communities and study groups to foster peer interaction and support.	70.7	25.0	20.7	37.5	0.0	0.0	6.1	25.0	2.4	12.5

Source: Field data (2024) ***Key; SS = students' percentage response; LS = lecturers' percentage response***

Concerning offering comprehensive training programs for instructors to effectively use online learning platforms, the data shows that 97.6% of students and 87.5% of lecturers agreed, while 2.4% of students and 12.5% of lecturers disagreed. No students or lecturers were neutral. The data suggest that a significant majority of both students and lecturers agreed on the need for comprehensive training programs. This implies that such training programs are perceived as effective in improving the application of online learning platforms. These findings are in agreement with Karim et al. (2022), who suggest that introducing ICT modules and intensive courses for teachers can help overcome e-learning limitations and challenges. This strategy is highly beneficial for the quality of learning as it equips instructors with the necessary skills to utilize online platforms effectively. They should be provided with continuous training in order to enhance constant provision of internet services at the universities. However, the disagreement among some lecturers implies that there may be concerns regarding the implementation or sufficiency of the training provided. Instructors lack ongoing programs that helps them to grow their abilities, skills and knowledge about these platforms.

Regarding providing continuous technical support to both students and instructors to address any issues with online

learning platforms, the data show that 93.9% of students and 87.5% of lecturers agreed, while 6.1% of students and 12.5% of lecturers disagreed. No students or lecturers were neutral. The data suggest that a majority of both students and lecturers agreed on the importance of continuous technical support. This implies that providing such support is effective in improving the application of online learning platforms by ensuring that technical issues do not hinder learning activities. These findings are in agreement with Ahmed and Opuku (2021), who reveal that overcoming technical challenges such as slow internet connection helps create new opportunities for blended learning approaches. Effective technical support enhances the quality of learning by ensuring uninterrupted access to online resources. Also, there must be an expertise who can help in proper management of internet services as well as the ability to solve the problems where necessary. However, the disagreement among some lecturers indicates potential issues in the existing technical support framework, possibly due to inadequate resources or inefficient response times. Economic burden tend to hinder the provision of internet services at the universities, therefore management must provide support to IT department to avoid inconvenience.

Concerning integrating interactive tools (e.g., discussion forums, live chats, and multimedia content) to enhance student engagement, the data show that 93.9% of students and 87.5% of lecturers agreed, while 6.1% of students and 6.3% of lecturers disagreed. The percentage of students who were neutral was 0.0%, and for lecturers it was 6.3%. The data suggest that a significant number of students and lecturers agreed on the effectiveness of integrating interactive tools. This implies that such tools are effective in enhancing student engagement and improving the application of online learning platforms. These findings are in agreement with Rafique (2023), who found that interactive tools encouraged participation, interaction, and communication among students. Integrating these tools significantly boosts the quality of learning by fostering active participation and deeper understanding. Online discussion and charts create a broad room for students to participate fully during discussion. However, the minor disagreement points to challenges such as technical issues or inadequate user training that may hinder the optimal use of these tools. Education should be provided to students so that they will be aware of how they can solve internet connectivity problems to allow them to participate in group discussion well.

Regarding developing mobile-friendly versions of online learning platforms to allow access via smartphones and tablets, the data show that 89.0% of students and 81.3% of lecturers agreed, while 9.8% of students and 18.8% of lecturers disagreed. The percentage of students who were neutral was 1.2%, and for lecturers, it was 0.0%. The data suggest that a majority of students and lecturers agreed on the need for mobile-friendly versions. This implies that developing such versions is effective in improving the application of online learning platforms by providing greater accessibility and convenience. These findings are in agreement with Eom (2022), who found that the use of mobile devices positively affects student-instructor and student-student dialogues. Mobile-friendly platforms enhance the quality of learning by enabling access anytime and anywhere, making learning more flexible and inclusive. Mostly, students are using their mobile phones and other devices to access materials from the internet regardless of the distance from the university. However, the disagreement among some lecturers suggests potential issues like technical compatibility or usability concerns that need to be addressed.

Concerning incorporating student feedback to continuously improve the functionality and user experience of online learning platforms, the data show that 93.9% of students and 75.0% of lecturers agreed, while 4.9% of students and 25.0% of lecturers disagreed. The percentage of students who were neutral was 1.2%, and for lecturers, it was 0.0%. The data suggest that a significant number of students and a majority of lecturers agreed on the importance of incorporating student feedback. This implies that doing so is effective in improving the application of online learning platforms by making them more user-centric. These findings are in agreement with Abdelrady and Akram (2022), who noted that incorporating online platforms in teaching-learning practices strengthens satisfaction and fosters engagement. Incorporating feedback enhances the quality of learning by continuously adapting to the needs and preferences of students. However, the higher level of disagreement among lecturers suggests potential challenges in effectively gathering and implementing feedback, which could undermine these improvements.

Regarding facilitating online communities and study groups to foster peer interaction and support, the data show that 91.5% of students and 62.5% of lecturers agreed, while 8.5% of students and 37.5% of lecturers disagreed. No students or lecturers were neutral. The data suggest that a majority of students and a smaller majority of lecturers agreed on the effectiveness of facilitating online communities. This implies that such communities are effective in promoting peer interaction and support. The high agreement levels among students suggest that these online communities significantly enhance the quality of learning by fostering collaboration and peer support. These findings are in agreement with Han et al. (2020), who noted the necessity of providing professional support to facilitate online peer support work better. Effective online communities improve the quality of learning by creating a collaborative and supportive environment. However, the

significant disagreement among lecturers highlights concerns about the practical implementation and management of these communities, suggesting a need for better facilitation and resources.

5. Conclusion and Recommendations

5.1 Conclusion

Based on the findings, the following conclusions were drawn:
Online learning platforms have a significant positive impact on teaching and learning activities in universities across the Arusha region. This was supported by findings indicating widespread agreement among both students and lecturers regarding the platforms' effectiveness in enhancing access to educational resources, fostering flexibility in learning schedules, and promoting collaborative learning environments. Additionally, respondents highlighted the platforms' role in improving comprehension, supporting practical skill development, and aligning academic pursuits with career goals. These outcomes suggest that the integration of online learning platforms contributes positively to the educational landscape by enriching learning experiences and facilitating continuous academic engagement. The implication of this extensive usage is generally favourable for the quality of education, as it enables institutions to adapt to digital advancements and meet diverse learning needs effectively, thereby enhancing overall educational outcomes and preparing students for future challenges in a technology-driven world.

Generally, online learning platforms are widely used in HEIs in Arusha Region. They effectively promote quality education by facilitating comprehensive training programmes for instructors. These programmes equip educators with essential skills, enhancing their ability to utilize digital tools effectively. Moreover, the integration of interactive tools enhances students' engagement by fostering active participation and deeper learning experiences. The development of mobile-friendly versions of online platforms further improves accessibility, accommodating diverse learning preferences and schedules. Continuous technical support plays a crucial role in overcoming challenges and ensuring continuous platform use, thereby enhancing the overall learning experience. Facilitating online communities also supports peer interaction and collaboration, contributing to a supportive educational environment.

5.2 Recommendations

Based on the study conclusions, the following recommendations were made:

1. The government should prioritize the provision of continuous technical support to address connectivity issues and ensure uninterrupted access to online resources. This can be achieved through partnerships with telecommunications companies and ongoing investments in digital infrastructure.
2. University management should implement comprehensive training programmes for instructors to equip them with the necessary skills to effectively integrate online learning platforms into their teaching practices.
3. Students should actively participate in online interactions and utilize interactive tools provided by the platforms to enhance engagement and collaborative learning experiences.

References

Ahmad, S., & Rafiq, M. (2016). Accessibility and Usability of Internet Among University Students in Khyber Pakhtunkhwa, Pakistan. *Pakistan Journal of Information Management & Libraries, 18*(1), 37-51.

Al-Jarf, D., Joy, M., Masa'deh, R., & Sinclair, J. (2022). Evaluation of E-learning systems success: An Empirical study. *Computers in Human Behavior*, 102, 67-86.

Anasel, M.G., & Swai, I.L. (2023). Factors to determine the adoption of online teaching in Tanzania's Universities during COVID-19 pandemic. *PLoS One*, 18(1).

Anthony Jnr, B. (2024). Examining Blended Learning Adoption Towards Improving Learning Performance in Institutions of Higher Education. *Technology, Knowledge and Learning*. https://doi.org/10.1007/s10758-023-09712-3

Barbosa, M., Borges, E.H. N., Gouvea, A., Picanco, F., Rodrigues, L., & Vieira, A. (2023). 'Higher Education in Brazil: Institutional Actions for the Retention of Students in Public and Private Schools'. In Phinheiro, R., Balbachevsky, P.P., Yonezawa, A. *The Impact of COVID-19 on the Institutional Fabric of Higher Education. Old Paterns, New Dyanamics and Changing Rules?* pp. 143-171. London: Palgrave Macmillan.

Basri, W. S., Alandejani, J. A., & Almadani, F. M. (2018). ICT Adoption Impact on Students' Academic Performance: Evidence from Saudi Universities. *Education Research International*, 1-9.

Bond, M., Bedenlier, S., Marin, V.I., & Handel, M. (2021). Emergency remote teaching in higher education: mapping the first global online semester. *International Journal of Educational Technology in Higher Education,* 18 https://doi.org/10.1186/s41239-021-00282-x

Brown, A., Lawrence, J., Basson, M., & Redmond, P. (2022). A Conceptual Framework to Enhance Student Online Learning and Engagement in Higher Education. *Higher Education Research and Development*, *41*(2), 284–299. https://doi.org/10.1080/07294360.2020.1860912

Budhwar, K. (2017). The Role of Technology in Education. *International Journal of Engineering Applied Sciences and Technology*, 2(8), 5-57.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Githae, J. N. (2022). *Digital Skills Development Factors as Predictors of Self-efficacy for Online Journalism among Undergraduate Mass Communication Students in Rwanda* [Thesis, JKUAT-COHRED]. http://localhost/xmlui/handle/123456789/5984

Haleem, A., Javaid, M., Qadri, M.A., & Suman, R. (2022). Understanding the role digital technologies in education. A review. *Sustainable Operations and Computers, 3*, 275-285.

Innocent, W.A., &Maseu, O.S. (2020). Applicability of E-Learning in Higher Learning Institutions in Tanzania. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT), 16*(2), 242-249.

Karim, I., Isnarti, R., &Puspiwati, E. (2022). *Proceedings of the 1st International Conference on Contemporary Risk Studies, ICONIC-RS 2022, 31 March-1 April 2022, South Jakarta,* DKI Jakarta, Indonesia.

Kibelloh, M. (2021). The potential role of e-learning in the expansion of higher education institutions in Tanzania. *SN Social Sciences, 2*(8) DOI: 10.1007/s43545-021-00106-9

Mahai, L.S. (2022). Overcoming the Odds: Online Learning Experiences from Open University of Tanzania's Regional Centre Rural-based Students. *University of Dar es Salaam Library Journal, 17*&1), 114-128.

Mtebe,J.S.,and Kondoro,A.W. (2016). *Using Mobile Moodleto Enhance MoodleL MSAccessibility and Usage at theUniversityofDares Salaam*. InIST-Africa 2016 Conference Proceedings(pp. 1–11). Durban, SouthAfrica: https://doi.org/10.1109/ISTAFRICA.2016.7530649

Mtebe, J.S., Raphael, C. (2018). A Critical Review of eLearning Research Trends in Tanzania. *Journal of Learning for Development, 5*(2), 163-178.

Otieno, K. O and Ayubu, A. (2023). Influence of Technological Advancement towards Quality Education in Higher Learning Institutions: A Case of Arusha City. *Journal of Research Innovation and Implication in Education, 7*(4), 619 – 631.

Paschal, M. J., Pacho, T. O., and Adewoyin, O. (2022). Teaching methods applied in higher education during C0VID-19 pandemic in Africa. *International Journal of Educational Policy Research and Review*, *9*(1). https://doi.org/10.15739/IJEPRR.22.003

Ramadhani, A. (2019). Ownership and uses of smart phones in accessing online materials by university students: A Comprehensive study from Moshi Co-operative University. *Journal of Co-operative and Business Studies,4(1),* 144-161.

Ryan, T.P. (2013). *Sample Size Determination and Power*. John Wiley & Sons.

Sari, S. F. (2022). *An Analysis Of The Effectiveness Learning English Via Online During Pandemic of Covid-19 At SMA N 1 Karimun* [Other, Universitas Islam Riau]. https://repository.uir.ac.id/16291/

Singh, B., Kaushal, V andDevi,S. (2022). Students' Attitude Towards E-Learning. *Juni Khyat*, 12(3), 1-7.

Sun, C., Liu, J., Razmerita, L., Xu, Y., & Qi, J. (2022). Higher Education to Support Sustainable Development: The Influence of Information Literacy and Online Learning Process on Chinese Postgraduates' Innovation Performance. *Sustainability, 14*(13), Article 13. https://doi.org/10.3390/su14137789

URT. (2016). *National Information and Communications Technology Policy*. Dar es Salaam: Ministry of Works, Transport and Communication.

Wotto, M. (2020). The Future of High Distance Learning in Canada, the United States and France: Insights from Before COVID-19 Secondary Data Analysis. *Journal of Educational Technology Systems*, *49*(2), 262-281.