

Management Strategies of Online Learning Environment in Promoting Collaborative Learning Skills in Higher Learning Institutions in Arusha City Council

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Abstract

The study focused on management strategies of online learning environment in promoting collaborative learning skills in higher learning institutions in Arusha City Council. Constructivism Theory underpinned the study. The study adopted qualitative approach with case study design. Purposeful and quota sampling techniques were used to select a sample size of 56 participants who were 52 students, 2 lecturers and 2 administrators. Questionnaires, interviews, and observation techniques were used to collect data. Data were analyzed through thematic analysis. The major findings revealed the management strategies employed in management of online learning in higher learning institutions. Other major findings are, few regular orientations and trainings, unstable system connectivity, inadequate of online learning experts and financial constraints are the challenges facing higher learning institutional management on online learning environments. The study recommends that higher learning institutional management have to prioritize the development of robust online learning infrastructures and reliable internet connectivity, high-performance servers, and scalable learning management systems.

Key words: Management strategies, Online learning environments, Collaborative learning skills, Higher learning institutions.

1. INTRODUCTION

Nowadays, Information and Communication Technology is a principal driver of economic development and social change of any country. Worldwide, the e-learning market valued to be 240 billion marked in 2023 and approximated to be 325 billion market value by 2025 (UNESCO, 2023). Online learning environment uses Information and Communication Technology (ICT) to achieve the learning in various levels of education. Developed countries demonstrated clear efforts in utilizing the potentials of ICT since the start of the 21st Century in different disciplines including education. The advances in ICT's make it possible to support learners and teacher's activities (Jean, 2020). In recent years, Open Distance Learning (ODL) has become a policy option for many developed and developing countries.

Online learning is an educational system in which the students are physically separated from the teacher and designed to be carried out remotely by using electronic communication (Kaur, 2020). The Internet has undoubtedly encouraged universities to reach out beyond their own campuses in order to offer more "distance learning", and at greater distances. Online and distance learning are

less expensive to support and are not constrained by geographic considerations. Online learning offers opportunities in situations where traditional education has difficulty operating. Students with scheduling or distance from school problems can benefit from this type of learning. This is because online learning reaches out to distance education and is more flexible in terms of time as it is delivered virtually anywhere. Management of online learning is not a substitute to face-to-face education, it is a worthwhile option in terms of costs of investment in education (Kentnor, 2020).

In developing countries, online education is fast becoming a mainstream reality rather than a myth throughout the world. Online learning is where teachers and students create an interactive as well as autonomous learning environment and based on media such as email and discussion boards, supports work relations among learners with teachers even when participants cannot be online at the same time (Daniel, 2020). Online learning facilitates learners to learn at their convenient place, pace and time. Online learning is based on internet connection and media such as instant messaging, skype, zooming, and Google Meeting among others (Hidayat, et al., 2022). Although several efforts have been made to integrate ICT into teaching and learning including the deployment of the online-learning platforms; the creation of student ICT laboratories in most of the universities, students' halls of residence and hostels for increasing access to the learning platform is still debatable.

Also, creating awareness of students and staff as well as conducting relevant training enabling environments and supporting structures is doubtful (Noroz, 2025). These activities are observed since the 1990s, its where universities like University of Dar es Salaam (UDSM) embarked on a Technology Enhanced Independent Learning (TEIL) program, followed by IAA and later on Mzumbe university in integrating ICT in teaching and learning that provides an independent learning environment (Mjankwi, 2018). It is therefore, worthy learning about higher learning management strategies that facilitate online learning environment for the students but also looking at the challenges that might hinder the management effort geared towards influence the online learning environments.

1.1 Statement of the Problem

Tanzania, like other countries in the world, in the year 2020 witnessed a rapid demand as well as the relevance of online learning since the World Health Organization (WHO) eruption of COVID-19 pandemic on 11th March 2020 (Cuccinotta, 2020). Reacting to the situation of Covid-19, almost all schools, colleges, and higher education institutions across the country were closed so that students could follow social distancing to reduce the risk of infections. The situation left a serious impact on students as 9.8 million students in Africa stayed at home COVID-19 (UNESCO, 2020).

The transition from traditional face-to-face learning to online learning in Tanzania faces multiple challenges in the management of online learning (Crawford et al. 2020). Lack of resources is reported to be the major challenge that instructors, students, and administration of higher educational institutes face in Tanzania (Jamal, 2022). Similarly, according to Kaunae, (2022), online learning creates multiple forms of inequalities in the education system which increases the need for low-cost and universal need of access to the internet.

Studies show that lack of access to and availability of the internet and technology affected students' capacity to perform in the digital learning environment as only 24% of population has access to internet in Africa (Thaanyane, & Jita, 2026; Mututwa, & Matsilele, 2024; and Kentnor, 2020). As a result, this study sought out to see management strategies that support online learning environment

for the students and administrative challenges hindering higher learning institutions managements' effort to achieve online learning environment in promoting collaborative learning skills in higher learning institutions in Arusha city council.

2. REVIEW OF LITERATURE

In Tanzania the implementation of management strategies of online learning often becomes apolitical issue despite the fact that the number of students seeking access to higher education learning has increased. Management strategies of online learning require clear frameworks and online structures, various communication strategies and effective facilitation of online learning (Mollel, Maro, & Mahai, 2025). Institution facilitators establish online learning through assigning specific roles to groups of students, leveraging interactive digital instruments, and sustain regular social presence in collaborative online learning environment. Similarly, effective management of online learning collaborative environment in Tanzania require innovative localized instructional design strategies which include the use of available platforms, students' capacity building, establishing groups structured roles and utilizing mobile -friendly communication technology (Mollel, Maro, & Mahai, 2025). Also, the Ministry of Education, Science and Technology in Tanzania identified the following management strategies which include "utilizing low-bandwidth accessible LMS tools, fostering structured peer interaction, and implementing institutional capacity building aligned with the national guidelines" (Ministry of Education, Science and Technology, 2025, p. 30).

Furthermore, Higher Learning Institutions (HLI) in Tanzania are becoming increasingly aware for the need of education programs that make use of the internet and other appropriate technologies to deliver their courses (Toquero, 2020). Studies show that universities and institutions like the Open University of Tanzania, Dar Es Salaam Institute of Technology, University of Arusha and Institute of Accountancy Arusha (IAA) are exploiting the best models of implementing online learning where orientation and training strategy play crucial part for online learning (Nassary, & Kitula, 2024; Semlambo, Sengati, & Angalia, 2022a; Semlambo, Sengati, & Angalia, 2022b; and Ekuman, 2019).

Despite effort of the government and universities in online learning and teaching; associated challenges in its implementations in Tanzania higher learning institutions are inevitable. Studies show that inadequate ICT infrastructure in universities like Institute of Accountancy Arusha and Open University of Tanzania, such as low internet bandwidth, low broadband connection, inadequate electricity supply, limited access to online learning devices and learners' attitude create challenges for online teaching and learning for students in higher education in Tanzania (Nassary, & Kitula, 2024; Semlambo, Sengati, & Angalia, 2022a; Semlambo, Sengati, & Angalia, 2022b; Ekuman, 2019 and Mjankwi, 2018). Nonetheless these challenges of management strategies of online collaborative learning environments it is clear that teaching learning strategies expanded educational reach and supported self-paced learning in higher learning institutions.

3. STUDY METHODOLOGY

3.1 Approach and Design

The researchers used qualitative research approach to address the research problem due to its suitability and relevance with objectives for this study. Qualitative research approach was effective in collecting rich data in an efficient manner, allowed the exploration of interesting concepts and the generation of new theories from unexpected findings that are not in line with conventional

(Creswell and Creswell, 2022). The researchers collected data, integrated the findings and drew conclusions using qualitative approach.

The researchers used a case study design, whereas, a case study design allowed for a deep and thorough investigation of management strategies and challenges of collaborative learning environment in higher learning institutions (Creswell and Creswell, 2022). This method involved an in-depth investigation of management strategies and challenges of collaborative learning environment in higher learning institutions with a small number of individuals. It allowed researchers to explore complex issues within higher learning management systems and students in their real-life contexts of the universities and gained a detailed understanding of the management strategies and challenges of online learning in influencing collaborative learning environment in higher learning institutions. This study design with a sample size of 56 from two higher learning institutions allowed for a thorough exploration of each case, providing rich and detailed insights that contributed to broader research knowledge in drawing meaningful conclusions from the study.

3.2 Sample and Sampling

The researchers used purposive as well as quota sampling to select lecturers because they are directly involved in the use of management strategies of online teaching and learning in higher learning education. Quota sampling is a non-probability sampling technique where researchers divided the population into subgroups based on certain characteristics (such as age, gender, or education level) and then set a quota for each subgroup. The researchers then sampled individuals from each subgroup until the quota is filled, this created a chance for respondents to give out their views and perspectives based on their groups. The researchers used twenty six (26) students, one lecturer and one administrator from both samples of higher learning institutions, the institution and a university.

3.3 Data Collection Tools and Analysis

In this study, the researchers used questionnaires and observation in a manner of consistent with the assumptions of qualitative approach for the research study to collect data from students. Where, interview guide was used to collect data from lecturers, to find out what is on their mind or what do they think about online learning environment and collaborative learning. The researchers subjected the interview data to thematic analysis procedures which involved coding and identification of themes.

3.3 Ethical onsiderations

The researchers adhered to all the research ethics after received letters of introduction for data collection and informed consent from institution authorities. Ethics in research is based on what researchers should do in their research and research behavior. Creswell (2018) adds that the researcher is advised to take into consideration the ethical issues connected with carrying out the research. Thus, the study adhered to ethics by obtaining introduction and permit letters for data collection process institutions authorities and maintained all means of academic honesty, informed research participants about the purpose of the study and were free to drop participation of the study at any time. Additionally, the researchers ensured that confidentiality of the obtained data were maintained and used for the purpose of this study only.

4. Results and Discussion

4.1 Management Strategies Used in Online Learning Environments

The first objective of this study aimed to find out management strategy used in online learning environments used in online learning environments in promoting collaborative learning in higher learning institutions. The researcher used questionnaires to 52 students and interview guides to 2 administrators (Vice Chancellor and Head of department). Also, interview guides were used for two (2) lecturers of the two (2) selected higher learning institutions. The following were the response of the students from the two selected institutions.

Table 1: Strategies used in Online Learning Environments

Regular orientation and training strategy	Frequency	Percentage (%)
Regular orientation and training of online platform	32	57%
Troubleshooting and technology improvement	35	63%
Grade assessments and assignments	29	52%
Time management	25	45%
Clear communication	27	48%

Source: Field Data 2024

Table 1 reflects the robust emphasis on strategy for management of online learning in higher learning institutions, highlighting a proactive approach towards equipping educators and learners with the necessary skills for effective online education. “In the observation, the researcher notes that students extensively utilize online platforms for learning, engaging in activities like discussion forums, virtual meetings, and collaborative group work. This digital environment fosters interactive and collaborative learning experiences” (Observation of the researcher on 15th April 2024).

Additionally, the researcher observed that students maintain academic communication standards, ensuring the quality and effectiveness of their online learning interactions (Observation of the researcher on 5th April 2024). This emphasis on academic communication reflects a commitment to achieving higher standards of learning and engagement within the online education context.

In the same objective, the researcher used an interview guide for lecturers of the selected high-learning institutions where participants were asked to explain strategies employed in management of online learning environments to promote collaborative learning in higher learning institutions. They explained that regular orientations and training of online platform, troubleshooting and technology improvement, grade assessment and clear communication are key strategies employed in online learning environments to promote collaborative learning in higher learning institutions. These strategies help to familiarize students with the online platforms based on their communication tools, time management, troubleshooting of devices for online learning,, conducting their assignments, and being involved in collaboration techniques necessary for successful engagement in virtual learning environments. The informant in an interview reported.

During orientations, students are introduced to online learning platforms, including how to navigate the system, access course materials, participate in discussions, and submit assignments. These sessions provide an overview of expectations, guidelines, and resources to support student success in online courses. (Observation of the researcher on 15th April 2024).

Another informant reported that;

Training and orientation sessions focus on building essential skills for effective collaboration among students in the virtual classroom. Students learn how to communicate respectfully and constructively with classmates, work together in group projects, and engage in discussions that foster critical thinking and knowledge sharing. Training also helps students develop digital literacy skills, such as proficiency in using online communication tools like computer devices and effectively contributing to online discussions. (Interview with Lecture 2 on 5th April 2024).

Another informant reported that; “we integrate regular orientations and training into online learning programs because institutions always enhance the collaborative learning experience for students to promote a sense of community and engagement and support academic success in the virtual classroom” (Interview with Lecture 3 on 15th April 2024).

The insights from the interview affirm that the orientation and training strategy, encompassing aspects like introducing students to online platforms, assessment methods, communication tools, and troubleshooting resources is diligently implemented within higher learning institutions.

4.2 Challenges and Barrier to Management strategies of Online Learning Environments

The challenges and barriers to management strategies of online learning environments was another objectives aimed to find out challenges hindering the management strategies of online learning environments. The data in tabale 2 indicates that inadequate of financial support, system connectivity, insufficient of teaching and learning expert and inadequate of orientation and training for online teaching and learning challenge environments of online learning. The table 2 shows the summary of findings of the challenges and barriers of online learning environments.

Table 2: Summary of the Challenges and Barriers of Online Learning Environments

Online Learning Challenge and Barrier	Frequency	Percentage (%)
Inadequate of Regular Orientation and Training Skills	26	48%
System Connectivity	29	53%
Insufficient teaching and learning Experts	38	70%
Financial Constraints	41	75%

4.2.1 Inadequate of Regular Orientation and Training Skills

Table 2 shows that, inadequate of regular orientation and training are the major challenges identified where 26 respondents with 48% of the total population, agreed that inadequate on that. Regular orientations and training sessions for online students focus on developing essential digital skills necessary for online learning, such as using collaborative tools, managing digital resources, engaging in online discussions, and submitting assignments electronically. These skills are crucial for students to succeed in a digital learning environment and enhance their overall academic performance. One informant in an interview said;

Lack of regular orientation and training has emerged as a significant challenge for our institution in recent times. Currently, we only provide training at the beginning of the academic year, which is proving to be insufficient given the rapidly evolving nature of technology. (Interview with Lecturer 4 on 15th April, 2024)

This was similar with another informant who said;

Field of technology continually changes, students need ongoing access to updated skills and knowledge. It would be beneficial to introduce training sessions at least once per semester to ensure that students are equipped with the latest technological skills relevant to their courses. Unfortunately, our institution has not been able to implement such regular training sessions, leading to a gap in students' preparedness for the dynamic digital learning environment. (Interview with Lecturer 2 on 5th April, 2024)

Another informant reported that;

Online learning need regular orientation and training programs like introduction to the online platform and troubleshooting are crucial for introducing students and faculty to the online learning environment to reduce anxiety and enhance engagement to students. Also, familiarizing participants with the online learning environment. (Interview with Lecturer 3 on 15th April, 2024)

4.2.2 System Connectivity

System connectivity was also mentioned as one of the challenge because 29 respondents, which is equal to 55% of the total number of respondents suggested that system connectivity used for online learning becomes a challenge when a large number of students use it at the same time. System connectivity includes internet connectivity for technological devices. System connectivity poses a challenge when the online learning platform or system becomes overwhelmed by the high volume of users accessing it simultaneously, especially during peak times such as examinations. This overload can lead to the system becoming slow, unresponsive, or completely inaccessible for users, causing disruptions in accessing course materials, participating in online activities, or submitting assessments. During observation, the researcher observed that internet connectivity in one of selected institution is not stable where sometime instructors use their own cost for internet connection. In an interview, one participant said:

I find it extremely frustrating that our institution hasn't addressed the ongoing connectivity issues we face. During crucial times like exams, the system often freezes or crashes, making it nearly impossible for students to complete their assessments. It's a major obstacle to our learning process and puts us at a disadvantage compared to students in institutions with more reliable technology infrastructure. (Interview with lecturer 1 on 5th April, 2024)

Another informant reported that;

There is no excuse investing in technological infrastructure because it includes network capabilities and server capacities which support a large number of concurrent users during peak times like exams. Therefore, we advocate for proactive measures such as load balancing, bandwidth management, and system upgrades to enhance system reliability and performance. (Interview with Lecturer 2 on 5th April, 2024)

4.2.3 Insufficient of teaching and learning Experts

Challenge of having insufficient number of teaching and learning experts has been mentioned by 38 respondents, which is 70% of the total number of respondents which suggested that insufficient teaching and learning experts poises a challenge. Teaching and learning experts contribute to the overall success and effectiveness of online learning institutions by combining pedagogical

knowledge, technological proficiency, quality assurance measures, support services, and a focus on innovation and adaptation to meet the evolving needs of learners and educators. In an interview one of the informant said;

Online learning need experts but it is very expensive to afford specialists in institutions who can be involved in teaching online learning, we should consider involving IT specialists directly in teaching. However, our current setup with limited online IT support poses a challenge that needs to be resolved for smoother operations, we have only one specialist while number of students is more than 2000 for pure blended programs. (Interview with Lecturer 2 on 5th April, 2024)

Also another informant reported that;

Inadequate of experts in an online learning led to significant challenges impacting student engagement and learning outcomes when technical support become a challenge it results to frustration and difficulties for users navigating online platforms where course development may lack effective instructional design and alignment with pedagogical best practices. (Interview with Lecturer 3 on 15th April, 2024)

4.2.4 Financial Constraints

This challenge has been mentioned by 41 respondents, which is 75% of the total number of respondents, suggesting that financial constraints pose challenge for online learning environments by limiting investments in technology infrastructure, course development, faculty training, and student support services. This can lead to inadequate resources, reduced quality of online courses, limited access to essential tools and resources, and difficulties in providing effective technical support and training, ultimately hindering the overall effectiveness and success of online education initiatives.

In an interview one of the informants said;

Based on my experience, financial constraints significantly challenge online learning environments because limited budgets often translate to outdated technology infrastructure, insufficient training for faculty and staff, and inadequate support services for students. This impacts the quality of online courses, makes it harder to provide necessary resources and tools, and can lead to frustrating technical issues that hinder the learning experience. (Interview with lecturer 4 on 15 April 2024)

Also, another informant said; *“Limited funding hinders universities from staying updated with the latest online education advancements, directly impacting the effectiveness and competitiveness of our programs, especially given the scarcity of specialists”.* (Interview with lecturer 1 on 5th April, 2024).

Another informant said;

Financial constraints can severely impact online learning to our institution by limiting investments in technology infrastructure, course development, faculty training, and student support services. As a result, outdated systems, inadequate resources, reduced quality of online training we provide, limited access to essential tools and resources, and challenges in providing effective technical support and training. (Interview with Lecturer 3 on 15th April, 2024)

5. DISCUSSION

5.1 Management strategies used in online learning environments

5.1.1 Regular Orientation and Training of Online Platforms

The findings indicate that the provision of orientations and training on online platforms may contribute to ensuring a supportive online learning environment. Online platforms training and orientations for online learning enhance students' preparedness by familiarizing them with digital tools and interfaces throughout their learning. The training builds confidence and reduces anxiety in their learning, allowing students to focus more on their studies rather than struggling with the technology.

This shows that orientations and training improve student engagement by ensuring comfort and proficiency with the platform's features, such as discussion boards, video conferencing, and assignment submission systems. When students understand how to use these tools effectively, they are more likely to participate actively in class activities and discussions.

Moreover, it has been identified that there is provision of online platforms during orientation and training to enable students to have guidance on time management, study strategies, and accessing support resources. The orientation not only prepares students academically but also provides them with the skills to manage their workload and seek help when needed.

Research by Bawa (2018) shows that comprehensive orientation significantly reduces dropout rates in a session, while studies by Barak et al. (2019) emphasize the importance of technical proficiency and collaboration in improving learning outcomes. Additionally, orientation helps clarify course expectations, preventing misunderstandings and aiding time management, as noted by Wladis et al. (2015).

This indicates that students' performance improves with increased interaction with online learning resources. This observation supports constructivist theory, which emphasizes that active learning and problem-solving contribute to deeper understanding and knowledge construction.

Therefore there is a need for regular online platform training and orientation to keep students updated with new tools and features, reinforce critical skills, and provide ongoing support. Therefore, to maximize the benefits of regular online platform training and orientations, institutions should schedule regular training sessions at the start of each semester and provide periodic refreshers throughout the year.

5.1.2 Troubleshooting and technology skills improvement

The findings showed that troubleshooting is one of the orientations and training provided for online learning students. Troubleshooting is one of the important during orientation and training for online learning students because it equips them with the skills to independently resolve technical issues they may encounter.

This indicates that troubleshooting training and orientation provided for online learning students typically include identifying common problems, understanding error messages, and applying basic fixes such as checking internet connectivity, restarting devices, and clearing browser caches which are crucial for learning. Whereby through troubleshooting techniques, students can minimize disruptions to their learning process and maintain productivity.

Moreover, this shows that students who receive comprehensive troubleshooting training as part of their orientation are better prepared to handle technical challenges. For instance, studies show that these students experience less frustration when technical issues arise, leading to improved focus and academic performance Finkelstein (2020). Moreover, the findings identified that training sessions should be provided timely for the most frequent issues students might face and provide step-by-step guides to resolve them, to enhance their confidence and self-sufficiency in managing their online learning environments.

According to Chen (2017), technical difficulties are a significant barrier to online learning success. Students who are trained in troubleshooting reports have higher satisfaction and retention rates on their operations in owning the learning. Another study by Finkelstein (2020) emphasizes that troubleshooting skills reduce dependency on external technical support, allowing students to quickly overcome minor issues and stay engaged in their coursework.

Constructivist theory also highlights the importance of timely and relevant support. The findings suggest that training sessions should address the most frequent issues students might face and provide step-by-step guides to enhance their self-sufficiency. This approach aligns with the constructivist emphasis on providing learners with tools and strategies to build their understanding and manage their learning processes independently.

This indicate that students should consistently highlight the positive impact of troubleshooting skills on learning and students should make it a crucial element for effective online learning support.

5.1.3 Communications

The findings revealed that online learning in higher learning institutions provides orientations and training focused on enhancing communication between students and lecturers. This orientation and training outline effective communication strategies. Students and lecturers use clear and consistent communication channels to facilitate effective interaction whereby Emails and Learning Management Systems (LMS) are used for formal communication to ensure that messages are documented and accessible.

This indicates that most institutions offer orientation programs at the beginning of programs to familiarize students with communication tools and protocols. Regular workshops are conducted to enhance the digital literacy of both students and lecturers to ensure the effective use of online communication tools.

According to Garrison and Anderson (2021), and Finkelstein (2020), there is a need for creating a community of inquiry in online learning, where open communication plays a critical role in cognitive and social presence. Moore (2019) discussed the importance of interaction in distance education, noting that effective communication mitigates the transactional distance between students and educators.

This shows social constructivism by underscoring the importance of communication because according to this theory, knowledge is constructed through collaboration and dialogue among students and between students and lecturers where lecturers and administrators act as facilitators in providing necessary support to students as they develop their understanding through the interaction.

Therefore, staff should implement robust feedback mechanisms where students can share their communication experiences and suggest improvements for efficient learning.

5.1.4 Time Management

The findings revealed that orientations and training focused on time management for both students and lecturers have been provided in higher learning institutions. Students and lecturers prioritize creating structured schedules to manage their time effectively. Setting clear goals and deadlines is crucial.

This shows that students establish specific academic goals and deadlines for assignments and study sessions to maintain focus and productivity whereby lecturers and administrators communicate course schedules, assignment deadlines, and exam dates to ensure students plan their time accordingly. However, the leverage of LMS features post schedules, send reminders, and provide time management resources to help keep students organized.

Moreover, most institutions offer orientation programs at the beginning of courses to familiarize students and lecturers with time management tools and strategies. Regular workshops are conducted to enhance time management skills, emphasizing the use of digital tools and creating structured schedules.

According to Broadbent (2019), time management skills are significantly correlated with academic success in an online learning environment. Zimmerman (2020) also emphasized the role of self-regulation and time management in achieving educational goals, particularly in self-paced online courses.

This indicate that by having lecturers and administrators communicate course schedules, deadlines, and exam dates, institutions help students align their personal time management with academic expectations. This mirrors the constructivist principle that effective learning involves interaction and coordination between the learner and the instructions.

This shows that students should create a study schedule to manage time effectively. Developing a weekly schedule that includes dedicated study times, class times, and breaks helps maintain consistency.

5.2 Challenges of Managements Strategies of Online Learning Environments

5.2.1 Economic Disparities

Economic disparities were identified as a significant challenge in the management of e-learning environments among universities in Tanzania, resulting in unequal access to essential technological resources.

The research findings revealed that many students and staff lack access to personal computers or laptops due to their high cost, and smartphones and tablets are more common where their capabilities are limited compared to computers.

This indicates that reliable internet connectivity remains a major issue, especially for students in rural areas who face poor internet service or complete lack of access. Even in urban areas, the high cost of high-speed internet restricts consistent access to online resources and live lectures. Perhaps

these disparities significantly impact the ability of students and staff to fully engage in e-learning activities.

According to Njenga et al' (2021), economically disadvantaged students struggle to participate in online classes, access, and complete assignments, and engage with multimedia content. Staff members face challenges in delivering consistent and high-quality online education due to unreliable internet and outdated devices.

The findings highlight a disparity between rural and urban areas regarding internet access. Social constructivism supports the idea that learners need equitable access to resources to engage in the learning process. These disparities disrupt the ability of learners in rural areas to collaborate and participate in e-learning activities, thereby affecting their learning outcomes.

5.2.2 Inadequate Regular Orientation and Training Skills

Inadequate orientations and training have been identified as significant challenges for the management of e-learning in higher learning institutions. The findings revealed that orientations and training sessions are often only provided at the beginning of the academic year, which is insufficient for ensuring continuous support and effective adaptation to e-learning platforms and methodologies.

This shows that orientation and training provided only at the beginning of the academic year leave students and lecturers without ongoing support as they navigate the complexities of e-learning. This means new students who join in the mid-year or those who face difficulties later in the academic term do not receive the necessary guidance, impacting their ability to effectively engage in online learning tools, leading to decreased efficiency and increased frustration.

According to Mtebe and Raisamo (2022), one of the main barriers to e-learning adoption in Tanzanian universities is the lack of continuous professional development for staff. Sanga (2017) emphasized the need for regular training to keep up with technological advancements and improve the overall effectiveness of e-learning initiatives.

Hamirit et al (2021) recommended ongoing training to help build confidence and proficiency among users, thereby enhancing the overall learning experience.

The lack of continuous professional development for staff, as noted by Mtebe and Raisamo (2022) and Sanga (2020), reflects a gap in supporting educators' ability to facilitate effective learning. Social constructivism views educators as facilitators who need ongoing development to support learners effectively. Regular training helps staff stay updated with technological advancements and improve their teaching practices

5.2.3 System Connectivity

The data identified that particularly internet connectivity for technology devices poses challenges in the management of online learning environments in higher learning institutions. The data indicates that during peak times, such as examinations or assignment deadlines, online learning platforms often become overwhelmed by the high volume of users accessing them simultaneously. This overload can lead to slow system performance, unresponsiveness, or complete inaccessibility, severely impacting students' and lecturers' ability to participate effectively in e-learning activities.

Therefore, this indicates that disruptions in accessing course materials, participating in online activities, and submitting assessments during critical periods increase stress and anxiety among students, affecting their performance and overall learning experience. Research in one institution revealed that internet connectivity is frequently unstable, forcing instructors to use their funds for internet access, adding financial strain and hindering the delivery of quality education in higher learning institutions.

Lwoga (2021) argues that there is a need for improvement of technological infrastructure including reliable internet access, to enhance the effectiveness of e-learning. Similarly, a study by Ngege and Kalema (2019) highlighted that system overloads significantly disrupt the online learning process, leading to a negative impact on student engagement and academic performance.

Social constructivism emphasizes that meaningful learning occurs through interaction and collaboration. System connectivity issues, such as slow performance and inaccessibility during peak times, disrupt these interactions. Students and lecturers are unable to engage effectively in online discussions, group work, or collaborative projects, which hinders the construction of knowledge through active dialogue

Consequently, the government should invest in upgrading technological infrastructure, ensuring stable and reliable internet connectivity, and implementing load management systems to prevent overloads.

5.2.4. Scarcity of Teaching and Learning Experts

The data identified that a lack of teaching and learning experts poses challenges like difficulties in navigating e-learning platforms, accessing course materials, and submitting assignments when occur during teaching and learning. The data also identified that students often encounter persistent problems with system usability, which leads to frustration and decreased motivation; lecturers also face technical issues when teaching resulting in challenges with course management, content delivery, and assessment.

This indicates that students and staff sometimes struggle to use the available technology effectively, which affects their ability to provide a high-quality learning experience. Frequent system outages, slow response times, and unresponsive platforms are common issues revealed in this research study that require the intervention of experts to resolve.

According to Raisamo (2019), the lack of skilled personnel to support e-learning initiatives in an institution is a major barrier to their success. Gunga and Ricketts (2017) highlight that without experts to integrate pedagogical and technological aspects effectively; e-learning programs are unlikely to achieve their intended outcomes. Gravenir (2018) contended on necessity of trained professionals to drive the adoption and sustainability of e-learning in higher education.

Thus, there is a need for students and staff to use effectively the available experts of online learning so as to overcome online learning environment-related challenges

5.2.5 Financial Constraints

The data identified that financial constraints translate to limited access to essential tools for students and staff such as reliable internet connections, computers, tablets, smartphones, and computer libraries. The data revealed that students from low-income families cannot afford technological devices that are necessary for online classes like completing assignments and engaging in collaborative learning activities. The lack of these tools hinders their ability to fully engage with the course material, leading to disparities in academic performance and overall educational outcomes.

This shows that students face challenges related to the cost of data bundles or internet subscriptions, further restricting their access to online learning platforms.

Moreover, institutions struggle to provide comprehensive training programs for educators to enhance their skills in online teaching methodologies and technology use due to inadequate funds. This results in lecturers feeling unprepared and unsupported in delivering effective online courses where a lack of proficiency in using digital tools and platforms occurs leading to insufficient delivery and reduced student engagement which causes lecturers to often feel the need to use their resources to secure reliable internet connections for conducting classes, adding a financial burden on them.

Helluman (2021) argues that insufficient financial resources result in reduced quality and accessibility of online education. Institutions with limited funding struggle to keep up with technological advancements, leading to outdated tools and platforms that hinder effective teaching and learning. The lack of financial investment also affects the provision of technical support, which is essential for resolving issues promptly and ensuring uninterrupted access to online courses.

As a consequence, higher learning institutions should use effectively the available resources to support online learning environments to online platform training, troubleshooting, and for the benefit of students.

6. Conclusion and Recommendations

6.1 Conclusion

This study has concluded that management strategies that are employed in an online learning environment is not enough for example training and orientations given to students for online learning environment must be increased.

This study has revealed management strategies challenges for online learning that hinder promoting collaborative learning skills in higher learning institutions. The study shows that higher learning institutions faces various challenges while ensuring online learning environments, especially financial constraints, lacks of IT experts, lack of regular training and orientation as well as system connectivity.

6.2 Recommendations

6. 2.1 Recommendations to Higher Learning Institutions

The recommendation to the higher learning institution management is to invest more in online learning by establishing regular training and orientation for students and providing professional development for instructor's income generating activities in curbing management challenges of online learning environments. Higher learning institution management should employ well and trained IT who will be able to plan and organize the issue of troubleshooting easily. Higher learning institution management should also allocate enough budgets for online learning environments by providing instructors and experts with health care so as to create a sense of safety among the staff like better salary and other motivations which would facilitate staff to work effectively.

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