



Original Research Article

Integration of e-Learning in higher education institutions and learners' engagement possibilities in Ugandan Universities

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The normalization of e-learning as a common form of teaching post Covid-19 era, caused a rapid transition in Ugandan universities causing a percentage of physical lectures substituted with e-learning sessions. This caused physical separation of instructors from learners during e-learning sessions. The hasty transition created queries about how effectively learners are engaged during e-learning sessions, given the existing ICT infrastructure, stakeholder ICT skills and inadequate support systems in the Ugandan universities. This paper sought to explore e-learning experiences in Ugandan Universities, targeting establishing how the model can be effectively utilized to achieve learner engagement. The objectives were; (1) to examine the experiences and perceptions of learner engagement during e-learning in Ugandan universities. (2) to explore the opportunities and challenges learners and instructors face in engaging during e-learning in Ugandan universities and (3) to identify and analyze potential strategies for enhancing learner engagement during online learning within Ugandan universities. A textual narrative synthesis methodology was adopted using secondary data sources, and findings revealed that learner engagement strategies are not yet fully embraced. That HEIs should expand internet access and provide offline learning resources, train instructors in interactive e-learning strategies and design learner-centered content, formatively assess holistic engagement strategies and establish digital support systems to assist learners and educators in real-time.

Keywords: E-learning, learner engagement, higher education

INTRODUCTION

The hasty transition from physical to online learning post the Covid19 lockdown made On-line learning to become a common form of teaching and learning (Ouma, 2021; Martin et al, 2022). According to (UNCHE, 2019; Vision, 2020; Olum, et al., 2020) in Uganda all universities and other tertiary institutions were mandated to follow e-learning guidelines set by the National Council for Higher Education communicated through the development of Open, Distance and e-Learning (ODEL) guidelines, to ensure that no student is left out during the remote learning sessions (Mukhaye, 2020). Subsequently, most universities developed or strengthened their existing e-learning policies to embrace ODEL standards, which were preferred as the

alternative means of enabling the continuation of higher education in the circumstances, largely due to it being able to offer a blended approach to learning activities (both through online and physical contact) (Sebbowa, 2022; Bisaso and Achanga, 2023).

Several universities in Uganda gradually substituted at least 40% of physical lectures with e-learning sessions (Bisaso and Achanga, 2023), which meant physical separation during the e-learning sessions. The physical separation of the instructors from the learners meant devising or strengthening strategies to effectively manage learner engagement during online classes (Martin et al, 2022). Much as most Higher Education Institutions (HEIs)

embraced and adopted the ODeL system due to its' potential to offer a blended approach to learning activities, the key question to be asked by any educationist is whether the e-Learning sessions synonymously effectively engage learners so that effective learning can be achieved during the physical separations. Especially given the fact that the different HEIs run a variety of disciplines, ranging from education, business, engineering, medicine and many others that are unique fields in themselves (Ouma, 2021; Olum et al., 2020). This article therefore aims to reflect on the e-learning pedagogical procedures and the possibility of learner engagement during e-learning sessions at HEIs in Uganda. It provides a snapshot of the possibilities and impediments to learner engagement during e-learning sessions, and the lessons to inform praxis at HEIs in the new normal.

Problem Statement

Despite the growing adoption of online learning, there is limited understanding of how effectively current e-learning practices engage students during these physically separated sessions in HEIs of Uganda. Given the limited ICT infrastructure, inexpert ICT skills and inadequate support systems for both instructors and learners, the study seeks to investigate the e-learning engagement strategies in Ugandan universities, particularly in terms of opportunities and challenges faced by both learners and instructors. By examining both students' and instructors' experiences and perceptions of online engagement, and identifying strategies to enhance it, this research aims to provide insights into creating a holistic, active learning environment that aligns with the Situated Learning theory, which emphasizes engagement as essential for meaningful learning experiences.

Objectives of the study

The objectives of the study were;

- To examine the experiences and perceptions of learner engagement during e-learning in Ugandan universities.
- To explore the opportunities and challenges learners and instructors face in engaging during e-learning in Ugandan universities.
- To identify and analyze potential strategies for enhancing learner engagement during online learning within Ugandan universities.

Research questions

- What are the experiences and perceptions of learners regarding their engagement e-learning in Ugandan universities?
- What opportunities and challenges do learners and instructors encounter in engaging with e-learning in Ugandan universities?
- What strategies can be utilized to enhance learner

engagement in e-learning within Ugandan universities?

Theoretical Perspective

The online learner engagement concept is guided by the Situated Learning theory by Lave and Wenger cited by (Ron and Jan, 2000) which explains that learning normally occurs as a function of the activity, context and culture in which it occurs. The theory clearly emphasizes that learners learn more through active engagement, the environment they are exposed to contextually, and the kind of learning culture they are exposed to. More so, students arrive at a new level of knowledge and understanding based on their experience as a real practitioner (Besar, 2018).

The theory emphasizes learning as a social process embedded within authentic contexts, where learners acquire knowledge through participation. Since e-learning creates platforms that facilitate online communities where students, faculty, and professionals can interact and share knowledge; creates environments where students engage in real-world online tasks like simulations, case studies, and interactive media mirroring professional scenarios; creates access to diverse resources, Ugandan universities can promote higher learner engagement and help students feel more connected and committed to their studies. It is thus important to pay attention to the above key issues in the process of determining the strategies that can effectively engage learners in order to create a holistic experience.

METHODOLOGY

The study opted to use a systematic review based on secondary data sources, combined with a textual narrative synthesis, to enable critical analysis and synthesis of findings from multiple studies that used different methodologies (Popay et al., 2006; Morley et al., 2019). This allowed us to draw connections, analyze, summarize and explain the findings from multiple studies, to create a comprehensive understanding of learner engagement experiences and challenges, while using e-learning at HEIs in Uganda. The study specifically opted for the textual narrative synthesis because of the analytical rigor involved.

The literature reviewed included all peer-reviewed studies and gray literature written in English from 2016 to 2024 (Evans et al., 2021). Literature was searched from the following data bases; ERIC, JSTOR, EBSCO, ProQuest's, dissertation abstracts, and Google Scholar., with a focus of including all literature related to integration of e-learning in HEIs and learners' engagement, while excluding all sources and documents that were Editorials, letters or commentaries on the theme, articles not in English and all sources that were not directly related to the theme respectively. Additionally, all literature was subjected to textual descriptions; analysis of relationships between studies based on year of publication, content and research methodology.

FINDINGS AND DISCUSSION

The experiences and perceptions of learner engagement during e-learning in Ugandan universities

Learner engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they must learn and progress in their education (Partnership, 2016; Bernstein, 2022). In the definition, the learner engagement is tied back to an understanding of the students and an instructor's ability to meet specific learners' needs (Bright, 2020). Such assertions try to emphasize the fact that learning is an interactive process which entails collaboration between the learners and the instructor for effective learning. However, the process involves understanding the learners' needs to be able to effectively engage them. It is also important to note that unlike physical and blended classes, when the environment is online and the learners are a diverse group of adults in a specialized content area, the challenges of learner engagement become more complex (Bright, 2020). Such a position clearly describes the likely challenges that may require extra creativity to overcome such barriers and achieve the goal of effective learning through tactful learner engagement during online or more precisely remote learning.

Different authors agree that the concept of students' engagement may be confusing, however (Ashwin and McVitty, 2015) posit that One way of more clearly delineating the objects of students' engagement is by focusing on what is being 'formed' through students' engagement. (Brooke et al., 2022; Martin et al., 2022; Dixon, 2015) Unanimously agree that Students' engagement has three widely accepted dimensions, which are behavioral, cognitive and affective. (Bond and Bedenlier, 2019) further clarify that engagement is influenced by a range of internal and external factors, whereby cognitive engagement relates to deep learning strategies, self-regulation and understanding; affective engagement relates to positive reactions to the learning environment, peers and teachers, as well as their sense of belonging and interest; and behavioral engagement relates to participation, persistence and positive conduct. The assertion is a clear indication that the engagement process in HEIs in Uganda should be holistic in nature and should not only be measured using one domain, but rather be gauged focusing on the learner as a full entity.

E-learning also called electronic learning or web-based training is the using of computers and courses provided on the internet to facilitate learning. According to (Kumar Basak et al., 2018), e-learning is such a wide set of applications and processes, which includes, delivery of content via internet, virtual classrooms, digital collaboration, audio and video tapes, satellite broadcast, interactive TV, and CD-ROM. As such, the several avenues of e-learning at disposal, require prior assessment to identify the most suitable mode to employ during teaching.

Therefore, there is a need for preparation by carrying out a pre needs assessment of the learners, to guide the creation of engaging content, incorporation of assessments and evaluation procedure, and provision of necessary Support to the learners (Michelle, 2023). Such pre requirements necessitate thorough assessment to establish whether HEIs in Uganda full filled them and how successfully they have promoted the e-learning protocols and support system.

Studies about learner engagement conducted in Ugandan previously have recommended the need to provide an environment conducive to facilitate learner engagement such as; availing good libraries and textbooks, integrating values in students and providing counseling services, experienced teachers, adequate infrastructure like laboratories and classrooms (Awori et al., 2020). However the conclusions are limited to physical instruction and secondary schools under normalcy, which does not give a concrete picture of online instruction.

In another study, (Arinaitwe, 2022) notes that students in Ugandan HEIs perceived that e-learning limited social interaction and participation during the sessions, which reiterates earlier findings by (Kahiigi et al., 2009) where learners perceived e-learning as less significant in facilitating the interaction between the students and the lecturers, yet interaction and participation are very key elements for learner engagement. It is thus important to conclude that such a perception requires a positive initiative to change, if critical issues of learner engagement are to be embraced. (Kahiigi et al., 2009) Moreover a study by (Tan et al., 2024) carried out in Malaysia supports the creation of positive perceptions about e-learning because it influences their engagement levels. Literally the study posits that students become engaged emotionally when they perceive that lecturers are providing feedback about their online assignments.

The study by (Muriisa et al., 2023) further exposes the limited learner engagement at HEIs in Uganda, since the findings clearly exhibit that majority of students were not well trained to undertake the e-learning program, and institutional support which in itself should have been an online engagement, was limited during learning. The findings are similar to an earlier study by (Kahiigi et al., 2009) which shows persistence of opinions. The recommendations call for measures that are avid and can transform such engagement challenges into better engaging online strategies for effective learning as proposed by (Bwire et al., 2020).

Exploring the opportunities and challenges learners and instructors face in engaging during e-learning in Ugandan universities

Opportunities

Several studies have advocated for e-learning options as a way of overcoming future physically challenging classroom opportunities. In Uganda's situation, a number of opportunities have been identified in that regard. Studies

by (Ouma, 2021; Sebbowa, 2022) explain that the fact that some HEIs equipped their learners with extra ICT skills before conducting e-learning sessions, was an inlet to improved learner engagement because it improved accessibility to different learning tasks prepared for learner interaction. It is thus important that such trainings be enhanced to improve learner online engagement. The findings are similar to the studies by (Tan et al., 2024; Twinamasiko et al., 2021), which amplifies the role of providing ICT skills in promoting learner engagement.

In addition, the free access to educational materials was discovered to be a great leap into learner engagement. According to studies by (Kahiigi et al., 2009; Kizza et al., 2021), findings revealed that learners had access to information and reading materials online. The free access facilitates research and self-directed learning; facilitates sharing of knowledge and facilitating an online learning experience. (Muriisa et al., 2023) further assert that the Universities where they carried out the study have rich websites that give opportunities to get the information required in making inquiries. All the above studies justify the role of access to e-learning materials in promoting learner engagement.

More so, the notion of assigning e-learning accounts to all learners (Bisaso and Achanga, 2023; UNCHE, 2019; Ouma, 2021) of all categories made a considerable possibility to learner engagement. Since all HEIs were required to guarantee the principle of equal inclusivity in any undertaking they proposed for any e-learning arrangement (Bisaso and Achanga, 2023), Mainly whoever accessed the e-learning platforms had equal chances of engagement, depending on the learning tasks paused by the course lecturer.

Challenges

Several studies have identified a number of challenges perceived to hinder learner engagement. According to (Twinamasiko et al., 2021) high internet costs, poor network coverage, and lack of necessary gadgets were the leading hindrances to e-learning and hence limiting learner engagement. In addition (Olum, et al., 2020; Tumwesige, 2020) identify limited internet coverage, and digital divide in Uganda which reflect the enormous inequality gap while engaging learners at different HEIs. The dissimilar learning environments limited interactions in terms of collaborative tasks. Similarly (Bwire et al., 2020; Kahiigi et al., 2009; Twinamasiko, et al., 2021) identify other hindrances to effective e-learning engagement where most course facilitators lacked gadgets and adequate online teaching skills, they found difficulty to determine the appropriate learning design and knowing the learner characteristics, they had negative perception about online learning and feared to expose poor quality content. These findings are consistent with studies carried out in other countries that revealed that e-learning system was not widely accepted and the learners lacked gadgets for connection (Eltahir MEJIA, 2019; Tarus and Gichoya (2015). Similar studies

note prevalent issues in universities that are found in rural areas including unstable power and unreliable internet (Tumwesige, 2020), which signify limited learning engagements and hence the need to find alternative strategies that can complement e-learning to fully engage the learners.

Such challenges experienced by the facilitators limit content uploading such as reading materials, quizzes and other assignments that are supposed to actively engage the learners. The multiple challenges left most course platforms not fully active and functional due to knowledge limitations (Kizza et al., 2021; Muriisa et al., 2023). Ideally the level of learner engagement is determined by activity, context and culture which is categorized under cognitive, affective and behavioral engagement. So once the necessary environment is not created online then learner engagement is limited.

In addition, studies by (Bwire et al., 2020; Olum et al., 2020) explain that since some disciplines are more practical like engineering and medicine e-learning sessions limit engagement of both psychomotor skills and experiential exposures, which limits effective learning. This is similar to studies by It is therefore important that rationalizations are done within disciplines to determine which content can be taught online and which content should be taught during physical lectures. This should be guided by the curricular desired competences.

The remote learning had a toll on attendance during live lecture and peer-instructor connection (Florence et al., 2022; Olum et al., 2020) explains that the Negative aspects included anxiety, despair, boredom, and a lack of interaction and communication, which led to isolation and problems with exams, educational habits, workload, and time management. (Angelino et al., 2007) notes that some students also reported that they experienced the feeling of isolation. During the online interaction, some students tend to feel more distant to the instructor and to each other, and in many cases active class participation is difficult (Brooke et al., 2022). Such experiences exhibit the psychological gap created by the physical absence of the teacher, and without counseling and more activities that are monitored, learners are not engaged effectively and may lose interest and drop out of the programme.

The home-based e-learning also resulted into making students more accountable for their learning, which may be challenging for students who struggle with self-regulating their work pace (Gillett-Swan, 2017). Given the difference in learning styles, the learners that require dependence on the course facilitator as a pacesetter found difficulty coping up which can definitely lead to dropouts. Learning from home also means there are more distractions than when students attend class on campus. At any point during class, children, pets, or work can interrupt a student's, or instructor's, remote learning or teaching (Fadde and Vu, 2014) Such interruptions limit proper learners' engagement.

Other surveys found out that students and faculty from equity seeking groups faced more hardships during online learning because of increased home responsibilities and

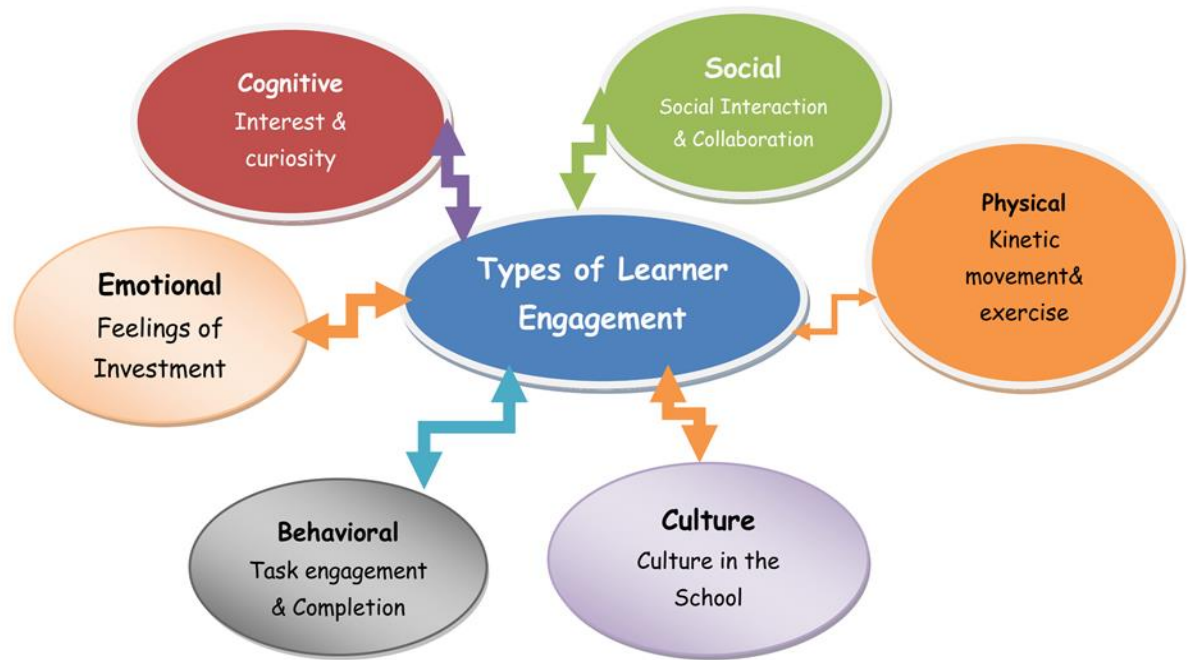


Figure 1: Visual expression of the types of learner engagement

Adopted from <https://xperienify.com/learner-engagement>

problems with internet access (Chan et al., 2020; Shin and Hickey, 2020). As such, the time for active learner engagement was reduced by the above limitations. More so (Bwire et al., 2020) advance another challenge to learner engagement caused by the instructors' busy schedules and lack of motivation. It is evident that such unmotivated facilitators and those that lack time definitely reduce on the time spent preparing for rigorous learner activities and engagements.

Identifying and analyzing potential strategies for enhancing learner engagement during online learning within Ugandan universities

Faculties need to retool all the academic staff and to set up committees that can follow up the set online pedagogy policies. (Bwire et al., 2020) proposes introduction of adequate training of faculty and enforcement of policies and mechanisms that ensure that faculty use pedagogically designed online courses for conducting their classes. With such good practices and mutually designed online learning materials, standards can be met, and adequate activities can be programmed to effectively engage the learners. Such activities may include (Brooke et al., 2022) using weekly quizzes, breakout rooms, and polls at least sometimes in their classes to engage students.

The many challenges of unstable internet and power outages can be solved by improvising of downloadable learning materials. The materials can also be supplemented with increase in recorded resources from online lectures. Olum et al., (2020) propose blended online and use of

offline downloadable learning materials to overcome the challenges related to the variable quality of internet access in the country. The materials accessed offline can enable occupying the learners and evoke their active participation without disruptions.

Another suggested strategy to improve learner engagement virtually is setting up smaller class discussions may promote better engagement through interaction among the students, content, and the discussion leader. The discussion groups can be conducted virtually but be well guided and monitored by the instructor through setting goals and assignments that should be presented to the entire class after the discussions. Often, instructors can use learning management systems and discussion boards to help facilitate student interaction and connection (Fadde and Vu, 2014).

Putting into consideration and planning to integrate the different types of learner engagement into the e-learning designed courses can greatly help increase learner engagement. (Brooke et al., 2022) suggest interaction with teachers, peers, and curriculum. However, technology and the classroom environment are equally influential components because they are particularly important for online learning. The professors may require students to turn on their cameras as a way of increasing accountability and giving an incentive to visibly focus like they are attending a physical classroom. The types of learner engagement can visually be presented in Figure 1 above.

More so, the addressing of learners by their names and creating short intervals of interaction during the lectures creates alertness and attentiveness. (Aladsani, 2022)

suggests that encouraging student interaction during lectures and in discussion forums, referring to students by their names, and allocating points for participation were strategies that worked well during the rapid shift to remote learning. These can be further adopted and modified to promote online learner engagement.

In a bid to make the engagement holistic, different research have proposed making changes in the way assessment is done, so that it targets learning and knowledge acquisition through allocation of more marks to formative assessment. (Ogange et al., 2018; Vivian et al., 2022) Changing the assessment format by increasing the proportion of formative assessment is often pro Computer-marked assessment could provide more prompt feedback to students' Interactive formative feedback was significant and useful in helping students deal with shyness in expressions posed in online assessment. Such re allocations of marks enable learners spend more time attempting different tasks which promotes engagement and knowledge acquisition.

Conclusion

In conclusion, literature reveals that learner online engagement at HEIs is very paramount in achieving effective learning, yet it is under utilized by HEIs in Uganda as far as engaging a holistic learner is concerned, as evidenced in the literature. The study presents both significant opportunities and challenges where e-learning offers expanded access to information and has potential for skill development but learner engagement is often constrained by infrastructural limitations, high costs of internet, and limited digital readiness. Additionally, factors such as lack of interactivity, reduced social engagement, and an increased sense of isolation affect learners' cognitive, behavioral, and affective engagement. This creates an urgent need for HEIs to address these gaps, to support a more inclusive, interactive, and holistic learning experience. The study thus recommends that;

i) HEIs should partner with government and private stakeholders to improve internet accessibility and affordability, especially in rural areas. Offline, downloadable resources should also be made available to minimize reliance on consistent internet connectivity.

ii) HEIs need to provide continuous training for instructors on online pedagogical strategies and be trained on designing interactive, learner-centered online content that uses digital tools like quizzes, breakout rooms, and discussion forums.

iii) HEIs should integrate formative assessments more prominently in online courses to maintain ongoing engagement and implement strategies that address all the three domains of learner engagement.

iv) Lastly, HEIs should establish support systems such as digital help desks, online counseling services, and dedicated e-learning coordinators to provide real-time assistance to learners and educators, fostering a supportive learning

environment.

Conflict of interests

The authors declare that they have no conflicting interests.

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