

Innovative Strategies for Enhancing Online Learning in Higher Learning Institutions in Zambia: A Focus on an Ideal Online Learning Enhancement Framework

Alvin Chiwoya, Harrison Daka, Mukuka Lydia Mulenga Hagane

Department of Educational Administration and Policy Studies, University of Zambia

DOI: <https://doi.org/10.51244/IJRSI.2025.12040066>

Received: 25 March 2025; Accepted: 08 April 2025; Published: 10 May 2025

ABSTRACT

The study explored the innovative strategies for enhancing online learning in higher learning institutions in Zambia. The objectives of the study were; to explore innovative strategies which could enhance online learning in higher learning institutions, and to propose an ideal online learning policy framework that can enhance online learning in higher learning institutions. The study was guided by the Constructivist Learning Theory and the Social Cognitive Theory. The researcher employed a pragmatic paradigm and a descriptive research design. The sample was made up of 180 educators who were purposely selected from four universities. Additionally, four (4) Directors of Distance Education in charge of Online Learning in the four universities, one (1) ICT engineer from the Internet Service Provider in the selected universities were also purposely selected. Three (3) research instruments were used to collect data; a questionnaire which was used to collect quantitative data from educators and two interview guides which were used to collect qualitative data. Qualitative data was analyzed thematically, while descriptive statistics were used to analyze quantitative data. The findings of the study brought to the fore some of the strategies that could be used to enhance online learning in Zambia such as facilitation of learners' acquisition of ICT gadgets at an affordable price, pushing more investment in online learning software such as zoom, and introduction of tax incentives on all ICT equipment bought by higher learning institutions in order to make them more affordable. The study also showed that some higher learning institutions conducted online learning without a clear policy guideline. Majority of the learning institutions relied on distance learning policy developed many years ago for guidance. In view of the findings, the study recommended the development of an online learning enhancement policy framework which highlights the strategies to be applied by the Government of Zambia through the Ministry of Education, Internet Service Providers and Higher Learning Institutions for effective online teaching and learning to take place in Higher Learning Institutions of Zambia.

Keywords: Information Communication Technology, Online Learning, Internet Service Provider

BACKGROUND OF THE STUDY

A rapid rise in the use of online learning platforms especially in Africa has been observed in the last twenty years. Many colleges and universities have increasingly shifted from the traditional face to face teaching approach to online teaching for some courses, while others have adopted the blended teaching approach where part of the course is taught through the online platform and the other part or component is taught through the traditional face to face approach. This is because technology has been seen as a facilitator of better learning and training worldwide and as a tool that reduces temporal and spatial problems associated with traditional teaching and learning approaches (Panigrahi et al., 2018).

For instance, Pedro and Kumar (2020) highlighted that 31.6% of the students in the United States of America were taking online courses by 2016. The United States of America is viewed as one of the leading countries in the integration of online platforms in teaching and learning. Kenzig, (2015) reveals that, approximately 5.5 million learners take at least one online course at every institution of higher education in the United States per year and over 70 million people take part in online learning opportunities for professional development, employment training, and personal growth each year, which shows a big evolution of the online learning

pedagogy in this part of the world.

In west Africa, universities such as the University of Ghana, Kwame Nkrumah University of Science and Technology and Cape Coast University took advantage of the technological advancement tool of internet by offering courses online to target the working class over a decade ago, though research revealed that the rate of online education in the universities was still very low and that most of the students still preferred face to face classroom teaching to the online teaching (Kotoua et al., 2015).

In the same way, widespread use of online teaching and learning mode in Zambia was generally triggered by the outbreak of COVID-19 in March 2020 after World Health Organization announced that the 2019 coronavirus disease (COVID-19) was a pandemic that had affected more than 114 countries worldwide (Mwale and Chita, 2020; Kathuria and Becker, 2021). This pronouncement led to the closure of on-campus teaching and learning in Zambian schools beginning from primary schools to colleges and universities. Schools closed for a prolonged period of time and this led to a number of schools, especially private secondary schools, colleges and universities to begin teaching remotely. Most of the institutions, if not all, did not have a long-standing history of online teaching but were forced by the circumstance to transition quickly to online teaching so as to remain relevant on the market.

The revelations by researchers such as Fadzil et al. (2015) and Kotoua et al. (2015) on the recent development of online learning in most African countries indicate the need for more studies to be conducted on how online learning can be enhanced in order to ensure efficient and effective performance of the teaching approach for the benefit of the learners and the learning institutions at large. The revelation by Pedro and Kumar, (2020) that 31.6% of the students in the United States of America were taking online courses by 2016, when countries such as Zambia were at a point of transitioning to online learning calls for robust research in the area of online education so as to enhance online learning in higher education institutions.

In depth review of literature showed some challenges associated with the online learning pedagogy especially in Africa despite the pivotal role it played in the transition from the face-to-face teaching to online teaching during Covid-19 pandemic period. The findings of the study conducted by Paschal and Mkulu (2020) showed that, majority of the learners and educators noted that online learning was not effective in African universities because of the inadequate computers, lack of funds for effective implementation of online learning, insufficient facilities, shortage of electricity, poor network, inadequate skills and lack of adequate ICT policies on education to support the implementation of online education.

Online learning has been regarded as a sleeping giant in the delivery of education in Zambia especially in the rural parts of the country (Sakyi et al., 2019). A study carried out by Kaumba et al. (2021) on the enablers and disablers in the uptake of ICT in rural primary schools of Mwinilunga District of Zambia revealed that the teaching of the ICT component particularly in Creative and Technology Studies faced many challenges such as poor internet connectivity, lack of supportive infrastructure, lack of ICT equipment and limited skilled human resources. This agreed with the findings of the study conducted by Mwalimu et al. (2017) which highlighted challenges associated with online learning such as high cost of data bundle, inaccessible Wi-Fi, insufficient computers and technophobia.

Mukosa and Mweemba (2019) made it clear that the high cost of internet bundle, lack of devices for internet access and the poor quality of internet services in Zambia were the major challenges in implementing online learning. Other scholars such as Hapompwe et al. (2021) and Magasu et al. (2022) also highlighted limited infrastructure and scarcity of resources as some of the challenges affecting the success of online learning in developing countries such as Zambia.

Research findings by Mikre (2011) and Kisanga and Ireson (2015) revealed that lack of information and communications Technology policy that sets the milestone in place was the biggest challenge that faced online learning in developing countries. The preceding research findings agree with the objective of this study which was to come up with workable solutions on how the challenges of poor internet connectivity across the country of Zambia, high cost of internet bundle, lack of online learning equipment by the learners and inadequate internet infrastructure in the country could be resolved through key stakeholders' engagements.

Statement of the Problem

Online learning has contributed significantly to the success of the distance education in Zambia. Findings of the study by Mundende et al. (2021) provided evidence that about 80% of the distance learning students at the University of Zambia accessed the Astria E-Learning platform and that their interfacing with the platform made their academic life easier, cheaper to use, and it was generally easy to access study materials online. However, ineffective online learning in Zambia has been a major problem since the advent of online learning following the outbreak of COVID – 19 in 2020 (Mwansa, Bwalya and Mwenya, 2021 and Magasu et al, 2022).

The recent research findings by Kaumba et al. (2021), Hapompwe et al. (2021), Magasu et al. (2022) and Mwila et al. (2021) highlighted poor network connectivity, high cost of internet bundle and inadequate internet infrastructure among others as the major obstacles to effective online learning in higher education institutions in Zambia. This, therefore, calls for an urgent but methodical bold step to engage the Government of Zambia, Internet Service Providers, and Higher Learning Institutions, who are key stakeholders in online learning, to ascertain how best the highlighted challenges could be resolved for the benefit of all online learners, educators and the education sector.

Literature has revealed a number of recommendations on online learning enhancement such as collaboration between government and the private sector to overcome barriers to internet connectivity and high cost of internet bundles (Daka et al., 2022). However, there is limited research on what higher learning institutions, Internet Service Providers and the Government of Zambia must do to address the online learning challenges. This study investigated the innovative strategies for enhancing online learning in higher learning institutions in Zambia.

Purpose of the Study

The purpose of this study was to explore innovative strategies which could guide the development of an ideal online learning policy framework that could enhance online learning in higher learning institutions.

Research Objectives

1. To explore innovative strategies which could enhance online learning in higher learning institutions.
2. To propose an ideal online learning policy framework that can enhance online learning in higher education institutions

Theoretical Underpinning

This study was anchored on the Constructivist Learning Theory. The Constructivist theory was developed by Jean Piaget (1896-1980), who is considered as the father of the constructivist view of learning (Ertmer and Newby, 1993). Mikre (2011) argues that, constructivism is a paradigm of learning that assumes learning as a process in which an individual constructs new knowledge or meaning based on prior knowledge and experience. Further, Bada and Olusegun (2015) projects the view that, constructivist theory focuses on learner centered learning, social experience or collaboration and use of multiple modes of presenting information such as video, audio and text.

Thus, this theory fits in very well in the 21st century advent of online learning, which is the subject of the study, where educators and learners had to adapt to the use of online technologies in teaching and learning as catapulted by the problem of school closures brought by the outbreak of the COVID-19 in March 2020 for teaching and learning to continue. This theory was particularly chosen for this study because of its advocacy for hands-on experience, social interactions and construction of knowledge, which is the bedrock of online learning.

LITERATURE REVIEW

Review of related literature represented the foundational theoretical literature as well as relevant scholarly research on online learning.

Information Communication Technology (ICT) Policy in Zambia

The ICT sector in Zambia is governed by the National Information and Communication Technology (ICT) policy that was launched in March 2007 by President Levy Patrick Mwanawasa which emphasized on the creation of an innovative, market responsive, highly competitive, coordinated, and well-regulated ICT industry (Hapompwe et al., 2021). The ICT policy highlights the potential of ICTs to improve the quality of education and training through online learning. Some of the objectives of the National e-Learning Strategic Plan are to make an ICT infrastructure available, fully integrated, and functional throughout Zambia (Konayuma, 2012). Therefore, the findings of this study were very crucial as they lay bare what was happening on the ground.

Konayuma (2012) highlighted a number of challenges that affected effective implementation of the online learning such as financial and technological resource constraints on the part of government, insufficient awareness of the benefits of integrating ICTs in the education sector; lack of a coordinated approach in the adoption and implementation of initiatives targeted at the deployment of ICTs within the educational system, and policymakers' agony to justify spending scarce and limited resources on ICTs when many government institutions were still lacking basic amenities and educational supplies.

This study, therefore, contributes greatly to the current debate on online learning performance through its evaluation of the functionality of the ICT policy in the selected universities. Online learning has the potential to revolutionize the education sector and improve the country's literacy levels once it is enhanced as it has the capability to bring on board young people who cannot afford on campus learning due to high costs, the working class who cannot afford to relinquish their jobs in the quest to improve themselves academically, family men and women who cannot manage to leave their families to go to school just to mention but a few disadvantaged society groups in our current education system set up.

According to Mukosa and Mweemba (2019), online technologies offer learners control over content, learning experiences, pace of learning and time. This ultimately allows the learners to tailor their experiences to meet their learning objectives. This view is well supported by the Constructivist theory that assumes learning as a process in which individuals construct new knowledge based on their prior knowledge and experience at their own level (Mikre, 2011). Therefore, the ICT policy in Zambia needs to be revisited so that it can incorporate possible solutions to the current challenges affecting effective online learning in Zambia which were brought out in this study.

Computer Expertise

A study by Mwale-Mkandawire (2020) entitled *Coping Strategies to Learning Challenges Faced by Rural Distance Students at the University of Zambia*, stated that inadequate computers and computer skills were the major hindering challenges towards the integration of information communication technology in distance education. The study also revealed that higher education courses that operate via distance learning mode had a higher dropout rate than those taught on campus due to students' low levels of computer training and ability to navigate their way through the online learning content and technical difficulties such as access, slowness and downloading of software. These findings stress the importance of computers and computer skills for out of class or distance learning to be successful, of which online learning is a form of it. It was therefore very important for this variable to be investigated in this study.

In addition, a study conducted by Khaloufi and Laabidi (2017) revealed that educators who were very knowledgeable in the use of ICT gadgets demonstrated higher levels of integration of computer technology in their teaching than those with less computer skills. Thus, educators who were sufficiently equipped with computer skills embraced the use of technology to teach more easily than those who were less skilled. This therefore means that the more computer skilled educators are at any learning institution, the more confident they would be to use computers in their work, and the more likely they would be to integrate online learning in teaching, which would be beneficial to the learners and the education system at large.

Furthermore, a study conducted in Taiwan showed a significant positive relationship between computer knowledge and online learning perception among the learners. The study showed that, higher computer literacy

correlated with higher online learning perception (Li and Lee, 2016). In the same vein, Sahin and Shelley (2008) argued that, enjoyment from online instruction will be promoted if learners have the skills to use online tools and perceive that online education is a useful and flexible way of communicating, learning and sharing. Additionally, their satisfaction with the online instruction would lead to higher levels of engagement, learning, and success in the online education setting. This standpoint clearly shows that computer skills are very cardinal for online learning to be effective and successful in any learning institution and the contribution of this variable to effective online learning was investigated in greater detail.

Resources - Material and Financial

The resource variable was discussed in the context of the roles which the Government of Zambia, ISPs and higher learning institutions play in the provision of equipment such as computers, affordable cost of internet bundle, adequate internet infrastructure, financial support, capacity building and adequate orientation on how to teach and learn through the online platform which has been observed to be a major inhibitor of effective online learning.

Mukosa and Mweemba (2019) made it clear that the high cost of internet bundle, lack of devices for internet access and the poor quality of internet services in Zambia were the major challenges in implementing online learning. Other scholars such as Hapompwe et al. (2021) and Magasu et al. (2022) also highlighted limited infrastructure and scarcity of resources as some of the challenges affecting the success of online learning in developing countries such as Zambia.

Henaku (2020), in his study entitled “Covid-19: Online Learning Experience of College Students: The Case of Ghana” revealed that learners were concerned about the cost of the internet bundle as they said were expensive and online learning consumed a lot of bundles because they had to download the audios and videos which their educators were sending to them. The same study revealed that some learners sometimes missed online lectures because they did not have money to buy internet bundle as most of them used to buy bundles for themselves. As a result, online learning was seen to be financially draining since they spent most of their pocket money on internet bundles. This experience could have contributed to learners having a negative perception about online learning in general. It is for such online learning experiences that this study is of great importance as it helps to find ways of resolving such challenges in Zambia going forward so that a positive perception could be created amongst the learners and educators which would eventually lead to satisfaction of the online learning pedagogy. This study therefore provided viable solutions to the highlighted online learning challenges in Zambia through interventions which stakeholders recommended in the study.

ICT Support to Learners and Educators

ICT can be defined as a combination of technological tools and resources that are used to manipulate and communicate the information (Kaware and Sain, 2015). Technological tools in the context of the definition refers to the electronic and digital devices such as computers, internet and broadcasting technologies which are vital in online learning. In this 21st century, ICT plays a very important role in the process of integrating technology into educational activities.

Journell (2012) argues that, learning institutions that choose to move programs online must provide educators with adequate learning opportunities to explore the various nuances of online teaching such as creating online classrooms, learning to implement synchronous and asynchronous communication, and assessing learner performance. It is for this reason that computer skills training for learners and educators is very vital; as it enables them to exploit the online learning pedagogy effectively. Computer skills are an unquestionable prerequisite for effective implementation of online learning at any given learning institution. Furthermore, Journell (2012) stated that students also needed to learn what to expect from online learning in terms of instructions on the habits needed for successful online learning experiences and examples of how to communicate with classmates and educators regularly.

Furthermore, Schiller (2003) argued that; personal characteristics such as the level of education, age, work experience, experience in terms of the use of computers for educational purposes and general attitude towards

computers influenced the adoption of ICT in classroom teaching. Other barriers which have been found to be the major hindrance to the integration of ICT into teaching and learning included lack of confidence among the educators, lack of access to resources, lack of ample time for lesson preparation, lack of support in form of effective training, numerous technical challenges encountered during the teaching and learning, age of educators and teaching experiences among others. This means that a lot of institutional support to educators and learners is very cardinal both materially and professionally if online learning is to flourish in Zambia.

It has also been found that lack of functional policy framework on online learning, inadequate infrastructure, high cost of bundles and inadequate in-service training on ICT integration in education have had a lot of serious negative impact on the integration of ICT in the teaching and learning process (Prokopiadou, 2012). Thus, technological advancement in this 21st century has exerted a lot of pressure on educators to use various types of technology in carrying out their day-to-day work. This means that, for educators to remain effective in their line of duty, they need not to only strive to improve on their teaching approaches and instructional skills but to also constantly adapt to new technologies, expand their knowledge base, refine their skills and competencies in order to successfully integrate instructional technologies efficiently and effectively (Pynoo et al., 2011).

It is clear from the research findings that the success of online learning in Zambia and indeed globally, is dependent on various factors such as training of educators, provision of adequate infrastructure, availability of technical support, competences of the educators, and educators and learners having the right perceptions; which can excellently be achieved with the support of the learning institutions (Hapompwe et al., 2021). It was for this reason that this study investigated how much ICT support universities offered to educators and learners, with the hope of coming up with better strategies which would eventually enhance online learning in the education system.

Educators' Perception of the Online Learning

People's perceptions, depending on whether it is positive or negative, has the potential to make the program or project succeed or fail. A study conducted by Kotoua et al. (2015) in Ghana revealed that most of the students still preferred face to face classroom teaching to online learning because they had a negative perception about online education. This made the rate of online education very low according to the questionnaire results of the study conducted in the various Ghanaian universities. This agrees with the findings of the study conducted by Magasu et al. (2022) on the implementation of blended learning in higher learning institutions in Zambia: A case of Kwame Nkrumah University, where some lecturers and students in some faculties were not willing to implement blended learning, and this made online learning at Nkrumah University not to be very successful.

Jayaratne and Moore (2017) conducted a study on the perceptions of college students towards online classes at North Carolina State University and the results revealed that, learners who took classes online had a positive perception towards online classes. The positive perception towards online learning by the learners was because online classes were taught so effectively that the learning expectations of the learners were met. This is a testament that perceptions and effective lesson delivery have a significant role in the success of online learning pedagogy.

Jayaratne and Moore (2017) further revealed that, when learners had an option to decide whether to take a class online or on campus, they made the decision mainly based on the time flexibility which the online classes offered. This agrees with the theory of the Distance Education Student Satisfaction model and literature which states that; students' enjoyment of the online instruction is promoted if they perceive that online education is a useful and flexible way of learning, communicating and sharing information (Sahin and Shelley, 2008; Kenzig, 2015). It is therefore true that perception plays a significant role in the educators and learners' satisfaction or dissatisfaction with online learning, which ultimately contributes to either success or failure of online learning. Hence, it was important that the subject of perception be addressed through this study so that effectiveness of online learning could be realized going forward.

These noted challenges require urgent solutions that would enhance online learning so that it could take its rightful role as a learner centered teaching pedagogy. It is for this reason that this study used a survey design to solicit views of educators in the selected universities on how online learning could be enhanced in order for it to

meet the expectations of the learners. Furthermore, Directors of Distance Education (DDE) in the selected universities and ICT engineers from ISP were interviewed with respect to online learning processes using a semi structured interview guide in order to gather information on how they thought online learning could be enhanced in Zambia in view of the many challenges revealed in the various research findings.

METHODOLOGY

The researcher employed a descriptive research design and a pragmatism paradigm. The sample was made up of 180 educators, 4 Directors of Distance Education, and 1 ICT engineer from the Internet Service Provider who were purposely selected. Additionally, a questionnaire was used to collect quantitative data from educators, while two interview guides were used to collect qualitative data. Qualitative data was analyzed thematically, while descriptive statistics were used to analyze quantitative data.

Study Findings

The findings of the study were presented systematically, following the objectives that guided the study.

Strategies for Enhancing Online Learning in Higher Education Institutions in Zambia

The researcher gathered views of educators from the selected universities and ISPs on the strategies that need to be put in place to enhance online learning in higher education institutions in Zambia. An open-ended question was inserted in the questionnaires that were distributed to purposively selected educators to capture their views and also. Educators from both private and public universities who were not satisfied with the performance of the online learning pedagogy were given a chance to share their views on what needs to be done to enhance online learning performance.

Educators' Views

Majority of the educators who were not satisfied with the performance of online learning in higher learning institutions shared various strategies which could be implemented to enhance online learning. Their views are presented according to the themes generated from the findings as follows:

Inadequate Resources

The study revealed that, most of the educators involved in online teaching taught with limited resources. One of the participants pointed out that:

Educators should be provided with gadgets for teaching such as touch screen computers, touch pens, graphic designers for creating content and facilitation of the interactive live assessments for effective online learning to take place (Educator 1, 2024).

In a similar vein, another participant from a public university, stated that; practical work was very cardinal from the perspective of engineering courses. The respondent stressed that, for online learning to be effective, there was need to develop software that would enable practical work to be conducted online because engineering courses were hands-on. Furthermore, another participant from a private university, pleaded that learners should be given easy access to the internet because those who were coming from resource poor families had no access or struggled to have access to the internet and laptops, which ultimately disadvantaged them in terms of performance when compared to friends who were coming from affluent homes where all the necessary ICT resources were available. On the other hand, one participant suggested that:

Universities need to couple online learning with subscriptions to reputable journals in all educational fields so that learners can have access to quality study materials (Educator 3, 2024).

Submissions by the educators suggested that online learning pedagogy was destined to have a greater influence in the education system of the country if timely interventions continued to be made where gaps were identified.

ICT Support

Correspondingly, a participant from a private university recommended that universities need to buy licensed software to help monitor learners during online assessments or examinations in order to avoid cheating or copying of solutions from other sources. Besides that, the participant recommended for improvement of internet connectivity as it was poor and also the provision of in-service training to educators on a quarterly basis to improve their skills. Additionally, a participant from a public university was of the view that government and universities need to put in place tight policies that would enhance online learning and pointed out that:

There is need to improve on internet connectivity especially in rural areas for the benefit of learners. Apart from that, all learners need to be trained on how to use the online platforms for learning because learners from rural areas are mostly disadvantaged due to lack of basic ICT skills and tools like laptops or tablets for learning. Universities should also allow students to report for physical lessons on campus for a prescribed period of time to allow teacher – student interactions and also for concretizing skills learnt via online, especially for practical courses (Educator 2, 2024).

Collaboration with other Learning Institutions

The study was informed of the need for universities to work with other learning institutions across the country that are well established so that learning activities which can be conducted within the locality of the learners can be done without attracting costs. One of the participants pointed out that:

Universities need to establish collaborations with research centers and public or private laboratories across the country where learners pursuing science and practical courses can go and do their practical work without necessarily going to the university campus (Educator 3, 2024).

Capacity Building

Capacity building is the process of improving the skills, knowledge and resources of individuals or institutions. It helps people and institutions to adapt and thrive in a changing world. The study was informed of the dire need to teach or equip learners with ICT skills required for them to effectively participate in online learning and also for online learning resources accessibility. In light of the foregoing, one of the participants stressed that:

There is need to increase the number of students that can be taught in an online learning session through subscription to licensed software. For example, some free platforms can only admit below 200 learners at a go, with limited timeframe for each session, for instance, 40 minutes for Zoom, leading to other learners missing lessons and sessions being cut needlessly. On the other hand, learning institutions must provide regular online teaching refresher courses for educators as most of them were trained to teach face to face content delivery. Above all, learning institutions need to introduce online teaching methods in the training curriculum for educators if educators' performance in online learning is to be enhanced (Educator 4, 2024).

Table 1 shows a summary of the recommended strategies for enhancing online learning in higher education institutions in Zambia by the Directors of Distance Education in the selected universities as categorized under the highlighted themes.

Table 1: Recommended Strategies for Enhancing Online Learning

ICT Resources Provision	ICT Skills Training	Stakeholders' Support
Educators must be supported in terms of ICT equipment accessibility.	Educators need regular training on teaching online and assessing learners	Government and internet service providers need to support private universities

• Educators teaching online should be given access to internet service even at home. • Invest more in ICT equipment e.g laptops, touch pads, dongles e.t.c. for educators engaged in online learning. • Invest more in online learning software e.g zoom for enhanced teaching and learning in higher learning institutions. • Zambia needs to get an own satellite in the cyber space as this will make internet access cheaper and accessible even in rural areas • Universities need to facilitate learners' acquisition of ICT gadgets at an affordable price as this will enhance teaching and learning via the online platforms.	through the online platforms. • Educators need to be trained on how to handle ChatGPT software so as to detect plagiarism. • Enhance the teaching of practical courses via the online platform. • Learners need to be trained regularly on the use of the online platform for learning so as to enhance their performance.	as well by ensuring quality and affordable internet is connected to private universities. • Improve power supply to all higher learning institutions, e.g through solar systems. • Improve internet connectivity in the learning institutions to effectively support online learning. • Government needs to reduce tax on ICT equipment as it leads to high internet cost in the country and also affects easy access to affordable ICT equipment like laptops, tablets, etc for both learners and educators.
--	---	--

Source: Field Data, 2024

The submissions from the Directors of Distance Education and educators from the selected universities showed that a lot still need to be done to enhance online learning in higher learning institutions in Zambia.

Internet Service Providers (ISP)' Views

The interaction with a participant from ISP on the provision of ICT infrastructure revealed that; Internet access to educators and learners had been spread across the ten provinces of Zambia by ZAMREN through the institutions that subscribed to its internet service. The study was informed that:

ZAMREN has deployed Education Roaming (Eduroam) service across the 10 provinces of Zambia; connecting all public universities, colleges, STEM schools and private educational institutions that are willing to partner with it in quest for access to fast and affordable internet service. Eduroam service is free and students can access it for free. In addition to that, ZAMREN has partnered with Zambia Information and Communications Technology Authority (ZICTA), Zambia Electricity Supply Corporation (ZESCO), Liquid Telecoms, Fibercon Ltd and Smart Net Zambia to provide fast and affordable internet to all learning institutions countrywide as mandated by the Government of Zambia (Informant B, 2024).

Additionally, the study revealed that; internet service providers were concerned with the high cost of the internet service in the country. The research was informed that, the motivation of the ISP was not to make profit but to provide quality internet service to the people.

Online Learning Policy Framework Utilized in Higher Learning Institutions in Zambia

In this section, the researcher focused on examining policies that governed online learning in the selected higher education institutions in Zambia. Directors of Distance Education in the selected universities were interviewed by the researcher and they revealed the policies that guided online teaching and learning in the respective universities.

Existing Online Learning Policies in the Selected Universities

The study established that some universities were conducting online learning without an established online

learning policy to guide its implementation. A participant from Public University 1 (PU1) asserted that:

The university only has the Open Distance Learning Policy which was developed before the advent of online learning. No policy has been developed yet on online learning but the university is going into that direction (Director 1, 2024).

Correspondingly, a participant from Private University 3 (PRU3) had similar sentiments to those of the participant from PU1 and categorically stated that the university only had a distance learning policy. This meant that the university had not developed an online learning policy to guide the implementation of online learning in a coordinated manner. On the other hand, the participant from Public University 2 (PU2) commented that:

Online learning is governed by three policies which are; Open Distance E-learning policy, ICT policy for the university and the Higher Education Open and Distance E-learning guidelines that cover all manner of online learning in the higher education institution (Director 2, 2024).

The submissions from the Directors showed that, while other higher learning institutions were way ahead in terms of implementing online learning in a coordinated manner through well-established policies and framework guidelines, some learning institutions implemented the pedagogy without any proper policies and guidelines. The findings of this study are therefore very significant as they inform policy makers and higher learning education quality assurance officers of the gap that exists in the implementation of online learning in the universities. The identified gaps need to be closed urgently by coming up with an online learning policy framework that can enhance online learning in higher education institutions before the quality of education being offered in the country is compromised.

Ideal Online Learning Policy Framework that could Enhance Online Learning in Higher Education Institutions in Zambia

Lack of satisfaction with the performance of online learning was a common phenomenon among educators who were involved in the study. While restating the importance of online learning in complimenting distance learning in higher education institutions in Zambia, which has become a popular education platform for professional employees who wish to upgrade their academic qualifications; educators highlighted a number of policy issues that need to be put in place if the quality of online learning is to improve. One of the educators stressed that;

Regulation of online learning in the universities has to be improved so that in the end, institutions of higher learning are compelled to meet the standards both in running online studies and providing equipment needed to facilitate teaching and learning via the online platform (Educator 4, 2024).

Submissions by the educators confirmed the input given by some of the Directors of Distance Education that online learning was not regulated in most of the higher learning institutions in Zambia. It appeared that, each university had its own rules and regulations that governed the implementation of the online education platforms. In a similar vein, another educator pointed out that;

ICT courses in colleges and universities must be made compulsory in order to equip graduates with relevant skills that would make teaching via online platforms viable and effective (Educator 5, 2024).

In addition, one of the educators was of the view that there should be a deliberate policy that would compel all higher learning institutions to provide ICT resources to both educators and learners so that technology should not be a barrier to effective teaching and learning. To validate this, the educator pointed out that:

All registered learners, especially those from rural areas must be provided with ICT gadgets for learning online like smart phones, tablets or laptops so that they can successfully learn online. Education is a right for every human being, not a privilege (Educator 6, 2024).

Furthermore, all the educators who took part in the study espoused the importance of accessibility to affordable and reliable internet connectivity if online learning is to be enhanced. In light of the foregoing, one of the educators added that:

All satellite university centers must be connected to free Wi-Fi internet which can be accessed via a code so that learners who cannot afford internet bundle can go and learn from the nearby centers (Educator 7, 2024).

It was clear from the submissions of the Directors of Distance Education and Educators that a new policy framework for enhancing online learning was an absolute necessity. This study was therefore carried out at the right time as the findings would help to come up with an ideal online learning policy framework for enhancing online learning in higher education institutions in Zambia.

Quantitative Analysis of Educators' Perceptions of Online Learning

This subsection presents a quantitative analysis of data collected using descriptive statistics. Educators' perceptions about the online learning pedagogy were evaluated with reference to the computer expertise they possessed, teaching resources which were availed to them, the ICT Support they received and their perception of the online learning pedagogy in general.

The demographics of the educators who participated in the study were as follows:

Table 2: Gender of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	46	36.2	36.2	36.2
	Male	81	63.8	63.8	100.0
	Total	127	100.0	100.0	

Source: Field Data, 2025

The demographic data on gender showed that majority of the participants were males, accounting for 63.8% of the total respondents, while females accounted for 36.2%. This could perhaps mean that majority of educators in the universities are male.

Table 3: Age of the Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-35	29	22.8	22.8	22.8
	36-45	50	39.4	39.4	62.2
	46-55	36	28.3	28.3	90.6
	56+	12	9.4	9.4	100.0
	Total	127	100.0	100.0	

Source: Field Data, 2025

With regards to the age of the respondents, majority of the participants in the study were in the age bracket of 36 to 45 years, which translated into 39.4% of the total respondents, with the least number of participants falling in the age bracket of 56 years and above at 9.4%.

Table 4: Respondents' Years of Online Teaching Experiences

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-1	12	9.4	9.5	9.5
	2-3	71	55.9	56.3	65.9
	4+	43	34.1	34.2	98.4
	Total	126	99.2	100.0	
Missing	System	1	.8		
Total		127	100.0		

Source: Field Data, 2025

Analysis of the respondents' demographic data also showed that most of the participants had 2 to 3 years of online teaching experience, accounting for 55.9%, though one of the participants did not respond to this particular variable.

Table 5: Respondents' type of university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public	84	66.1	66.1	66.1
	Private	43	33.9	33.9	100.0
	Total	127	100.0	100.0	

Source: Field Data, 2025

It was also observed that 66.1 % of the educators who completed the questionnaires were from public universities, while 33.9% were from private universities.

A quantitative analysis of educators' satisfaction levels with the online learning pedagogy revealed educators' true perception about online learning with regards to computer expertise, resources that were available at their disposal for online teaching, ICT Support rendered to them in the course of teaching online and educators' perception of the online learning pedagogy.

Table 6 shows data for educators' responses on computer expertise. The responses showed that educators were satisfied with the training they received from the respective universities to teach online, the computer knowledge and IT skills they acquired as they taught online. Additionally, educators were satisfied with the level of interactions with the students during online learning, the facilities which were available for learners to ask questions clearly during online lectures, the online assignment feedback from the students and online assessment of learners' competencies. However, educators were moderately satisfied with the online teaching experience possessed and the conduct of theoretical and practical lessons without real interactions with the learners as evidenced by the mean scores of 3.98, 4.43, 4.13, 4.18, 4.02, 3.88 and 3.29, 3.39 respectively out of a maximum score of 5. The overall mean of 3.91 showed that educators were generally satisfied with the computer expertise they possessed as they taught via the online platform.

Table 6: Computer Expertise

	N	Minimum	Maximum	Mean	Std. Deviation
I had experience to teach online before the COVID-19 pandemic	127	1	5	3.29	1.549

I was trained by the university to teach online	126	1	5	3.98	1.106
I have sufficient computer knowledge and IT skills to manage online classes	126	1	5	4.43	.774
I am able to open cameras to maximize live interactions with students during online lessons	127	1	5	4.13	1.062
I am able to conduct theoretical and practical lessons without real interactions with the learners	127	1	5	3.39	1.273
Learners have the facility to ask questions clearly during online lectures	127	1	5	4.18	.971
Learners do their assignments and I provide feedback on their assignments online	126	1	5	4.02	.988
I am able to assess my learners fairly and determine their competency effectively online	127	1	5	3.88	.931
Valid N (listwise)	125		Average =	3.91	

Source: Field Data, 2025

Table 7 shows heterogeneity of the educators' responses with respect to the resources they received from their respective universities for online teaching as evidenced by the standard deviations which were mostly above 1.000. In other words, while some educators were satisfied with the resources they received for teaching online, others were dissatisfied. Table 7 showed that educators were satisfied with time management during online teaching, the organization of the online learning assessments, the organization of the online learning materials, and the equipment and facilities they had to enable them conduct online classes.

Table 7: Resources					
	N	Minimum	Maximum	Mean	Std. Deviation
I have sufficient equipment and facilities (computer, internet, software) to conduct online classes	127	1	5	3.57	1.225
The university provides ICT equipment and facilities to conduct online learning	127	1	5	3.02	1.151
I have no challenges with the organization of online learning materials, assessments and time management	127	2	5	3.72	.959
I have no challenges with the organization of online learning assessments	127	1	5	3.79	1.005
I have no challenges with time management when I am teaching online	127	1	5	3.99	.913
I have limited tools for student's assessment under the online learning platform	127	1	5	3.39	1.134

The university provides or facilitates internet connectivity to all educators conducting online learning	127	1	5	3.16	1.348
The university has back up power supply to support online learning service in case of electricity supply blackout by the utility company.	127	1	5	2.63	1.308
The university has online learning resources at all the university centres across the country	126	1	5	2.71	1.146
The university has free internet service at all the university centres	127	1	5	3.13	1.182
Valid N (listwise)	126		Average =	3.31	1.137

Source: Field Data, 2025

However, educators' responses showed dissatisfaction with the internet service which universities had at all the university centers, the online learning resources that were available at the respective university centers, the university back up power supply that supported online learning during ZESCO load shedding, internet connectivity to all educators engaged in online learning, and the provision of ICT equipment and facilities by the university for conducting online learning, though the standard deviations of 1.182, 1.146, 1.308, 1.348 and 1.151 indicated that not all the educators were satisfied.

Generally, the study showed that educators were moderately satisfied with the resources at their disposal for teaching online in their respective universities as revealed by the overall mean of 3.31. However, since the mean score was below the threshold of 3.51, it meant that educators were not satisfied with the resources that were provided by the respective universities for effective teaching via the online platform, even though the overall standard deviation of 1.137 indicated that some educators had divergent views.

Table 8: ICT Support					
	N	Minimum	Maximum	Mean	Std. Deviation
The university has an online learning facility that meets the needs of the learners with hearing, as well as other disability challenges	127	1	5	2.28	1.188
Online courses are adjusted to cater for learners with hearing and other special education needs	126	1	5	2.06	1.144
ICT experts help to ensure that high quality learning take place without interactions with learners face to face	127	1	5	2.87	1.150
Valid N (listwise)	126		Average	2.40	1.160

Source: Field Data, 2025

Table 8 revealed that educators were not satisfied with online learning facilities put in place for learners with hearing and other disability challenges, but were somewhat satisfied with the ICT experts' support in ensuring that quality online learning took place even without face-to-face interactions with learners as evidenced by the mean score of 2.28 and 2.87 respectively. However, the overall mean of 2.40 showed that educators were not

satisfied with the ICT support provided by the ICT experts in the selected universities, though the standard deviation of 1.160 showed that educators' perception towards ICT support during online learning was heterogeneous.

Table 9: Educators' Perception of the Online Learning Pedagogy

	N	Minimum	Maximum	Mean	Std. Deviation
Conducting online classes require more effort in comparison to face to face instructions	127	1	5	3.59	1.217
Traditional classes are more effective than online classes	127	1	5	3.65	1.269
Lack of physical instructions between learners and their instructors results in low performance	127	1	5	3.24	1.207
Learners with online learning courses outperform learners with face-to-face courses	127	1	5	2.13	.951
Learners with face-to-face learning courses outperform learners with online learning courses	127	1	5	3.39	1.298
I am satisfied with the learner - educator interactions during online lectures	127	1	5	3.20	1.008
Online learning is able to meet individual learner learning needs	127	1	5	3.15	1.077
Valid N (listwise)	127		Average	3.19	1.147

Source: Field Data, 2025

In Table 9, educators' perceptions of the online learning pedagogy were displayed. The data presented showed that educators agreed that conducting online classes required more effort in comparison to face to face instruction as evidenced by the mean score of 3.59, though the heterogeneity of their responses was evident as indicated by the 1.217 standard deviation. Educators also agreed that traditional classes were more effective than online classes as shown by the 3.65 mean, even though the standard deviation of 1.269 showed divergence of educators' views on that variable. However, the overall mean of 3.19 showed that educators had a negative perception of the online learning pedagogy generally, though the responses were diverse as evidenced by the overall standard deviation of 1.147. This compelled the researcher to explore respondents' submissions on measures that could help to enhance online learning in higher education institutions in Zambia.

DISCUSSION OF THE FINDINGS

The discussion of the research findings was done according to research objectives and themes which emerged from the data collected.

Strategies for Enhancing Online Learning in Higher Education Institutions in Zambia

This study informs stakeholders in online learning that there is need to listen and understand the practical implications of the challenges being experienced by both educators and learners engaged in online learning. This would make online learning pedagogy efficient, effective and appealing to both educators and learners.

Online Policy

Some of the strategies recommended for enhancing online learning included; improved regulation of online learning in the universities so that in the end, institutions of higher learning can be compelled to meet the standards both in running online studies and providing financial resources needed to facilitate teaching and learning via the online platform.

Besides that, the study recommended for compulsory introduction of ICT courses in colleges and universities in order to equip graduates with relevant skills that would make teaching via online platforms viable and effective. Such recommendations make strong policy contributions for an enhanced online learning. Mikre (2011) and Kisanga and Ireson (2015) stated that lack of information and communication technology policy that sets the milestones in place is the biggest challenge that faces online learning in developing countries. This study hopes to bring this challenge to an end by recommending a strong online learning policy framework that would effectively guide online implementation process.

Resources

According to the findings of this study, provision of ICT gadgets for learning online such as smart phones, tablets or laptops to all registered learners, especially those from rural areas is very important. This is because such a decision would enable all learners to successfully learn online because education is a right for every human being, not a privilege. Besides that, mandatory employment of fully qualified ICT personnel to train learners who are not conversant with technology and connection of free Wi-Fi internet which can be accessed via a code to all higher learning institutions would contribute greatly towards online learning enhancement. These findings confirm revelations in the studies conducted by Hapompwe et al. (2021) and Magasu et al. (2022) that scarcity of resources is one of the challenges affecting the success of online learning in developing countries like Zambia.

ICT Training

Some educators engaged in the study recommended for provision of regular online teaching refresher courses for educators as most of them were trained to teach face to face content delivery at the time of their training. The introduction of online teaching methods in the training curriculum for enhanced educator performance would be a great milestone. These recommendations connect well with the findings of the study conducted by Khaloufi and Laabidi (2017), where it was noted that; educators who were very knowledgeable in the use of ICT gadgets demonstrated higher levels of integration of computer technology in their teaching than those with less computer skills. This signifies the importance of ICT training as a catalyst for online learning enhancement. Figure 3 below displays the strategies that could help to enhance online learning in Zambia.

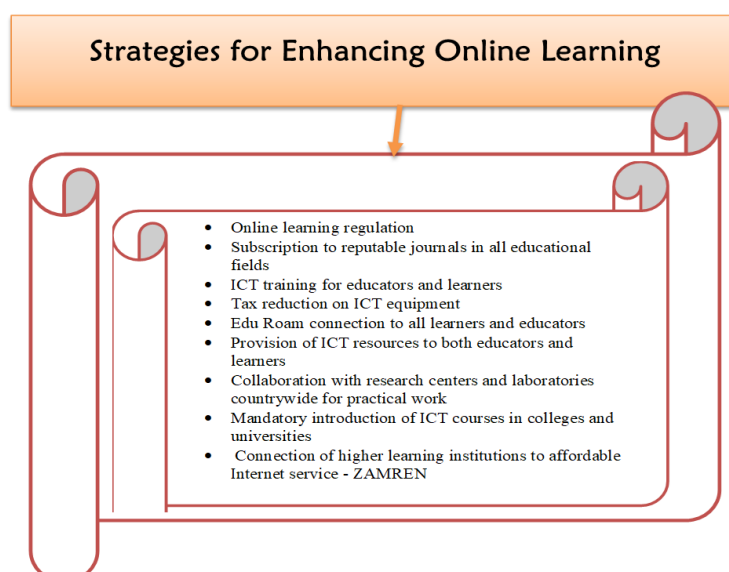


Figure 1: Strategies for Enhancing Online Learning

Source: (Field Data, 2024)

Ideal Framework for Enhancing Online Learning in Higher Education Institutions in Zambia

The second objective of this study sought to propose an ideal online learning policy framework that would enhance online learning in higher education institutions in Zambia. The thrust of this objective was in line with the research paradigm that guided the researcher's research position in this study. This is because pragmatism research philosophy is focused towards studying real problems in the world such as ineffective online learning in higher learning institutions in Zambia (Fiorini et al., 2016). Thus, the concern for the pragmatism paradigm is to find what works and provides solutions to societal problems, and to make mankind happier by enabling them to cope more successfully with the physical and social environment, which was the objective of this study.

By developing a workable online learning framework that incorporates key fundamentals of online learning, Zambia can improve online learning delivery in higher education institutions, thereby expanding access to quality education across geographical and social strata. The positive impact of an enhanced online learning system is depicted in the study conducted by Kenzig (2015) which reveals that, approximately 5.5 million learners take at least one online course at every institution of higher education in the United States per year and over 70 million people take part in online learning opportunities for professional development, employment training, and personal growth each year, a development which can also take place in Zambia if an ideal online learning policy framework can be put in place. A well-structured online learning policy framework would greatly benefit higher learning institutions, educators and learners in Zambia. The proposed online learning framework, which is based on the data collected from the study; highlights roles that must be played by the government such as tax reduction on ICT equipment for higher learning institutions in order to reduce costs related to importation, development of an online learning regulatory framework to guide the implementation of online learning in all higher learning institutions and ICT infrastructure development for online learning to be enhanced. The proposed ideal online learning policy framework is illustrated in Figure 2.

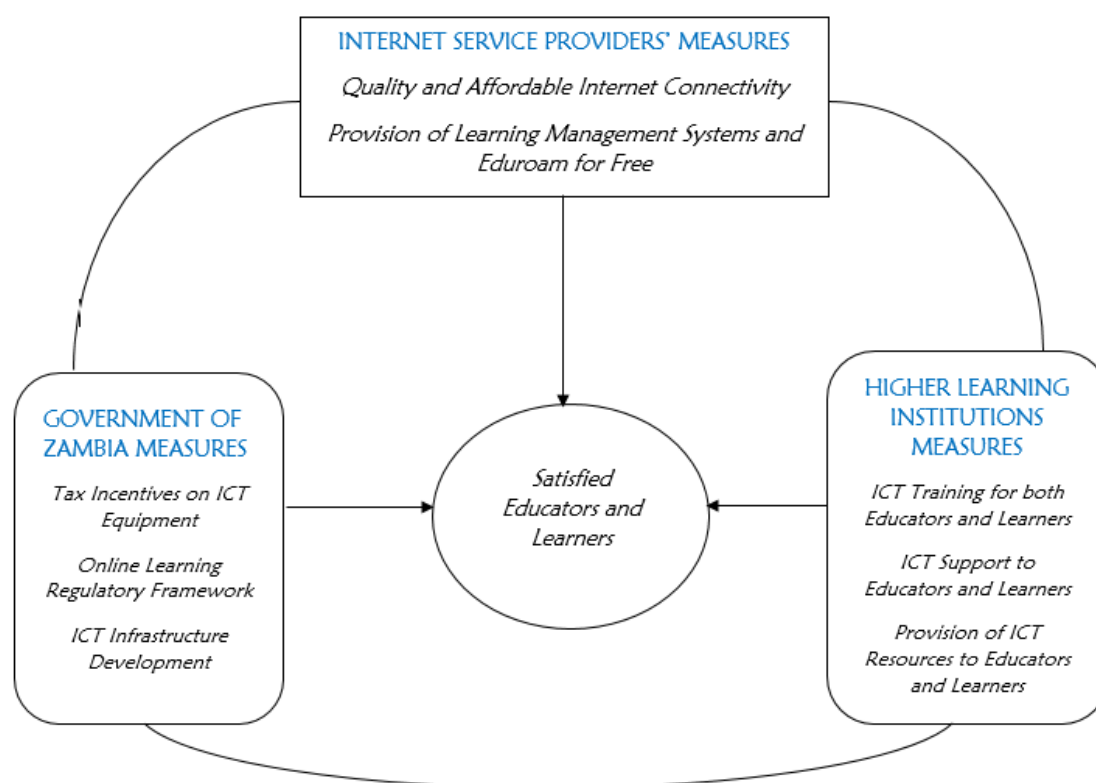


Figure 2: Online Learning Enhancement Framework

Source: Field Data, 2025

This framework displays the roles which ISPs need to play to support online learning like, provision of quality and affordable internet connectivity to all higher learning institutions and installation of learning management systems and Eduroam for free.

Furthermore, the framework incorporates key roles which higher learning institutions and the government of Zambia need to play in order to enhance online learning such as ICT training for both educators and learners, offering ICT support to both learners and educators so as to enhance their digital learning competencies, provision of ICT resources like laptops and tablets to both educators and learners, provision of tax incentives on ICT equipment, development of an online learning regulation framework and ICT infrastructure development. The submissions from the study participants clearly showed the deficits of the online pedagogy in the six key areas as follows:

Tax Incentives on ICT Equipment

One of the participants from PU2 revealed the need for government to reduce tax on ICT equipment as it led to high internet cost in the country. The argument presented was that, the cost of internet service in Zambia was very high and was beyond the reach of common citizens and learners at large. This sentiment was also shared in the study carried out by Kaumba et al. (2021), Hapompwe et al. (2021) and Mwila et al. (2021) where the challenge of high cost of internet bundle and inadequate ICT infrastructure were highlighted.

Participants' revelations signify the importance of tax incentives in the ICT sector in quest for enhanced online learning. Hence, the Government of Zambia need to get involved in the ICT sector business heavily and provide tax reliefs that will trigger affordability of the ICT equipment like laptops and tablets among others for the benefit of learners and educators.

Online Learning Regulatory Framework

A regulatory framework is a set of rules, regulations, and laws that govern a particular sector. It establishes standards and guidelines on how individuals, organizations and institutions must comply. In this study, educators voiced out on the need for online learning to be regulated if high standards of delivery are to be maintained in all higher learning institutions with respect to online learning.

Therefore, Ministry of Education (MOE) need to exercise its mandate through the Education Standards Officers (ESO) to regulate the provision of online learning in all higher learning institutions in Zambia. According to Paschal and Mkulu (2020), effectiveness of online education in higher learning institutions in Africa is hindered by lack of adequate ICT policies on education to support the implementation of online education. Hence, regulation of the online learning pedagogy is key if enhancement is to take place in Zambia.

ICT Infrastructure Development

ICT infrastructure development involves the creation of systems to collect, store and communicate data. In this regard, installation of ICT hardware, that includes computers, network components and data storage devices is very vital. While government has made tremendous progress in the expansion of optic fibre network, construction of the ICT centre of excellence, construction of communication towers countrywide and upgrading of towers with 2G network to 4G network, there is still need for urgent investment with regards to provision of computers, affordable internet network installation and data storage in higher learning institutions.

The major challenge that affects the growth of ICT in developing countries like Zambia is affordability. Most of the learning institutions are not able to teach online effectively because they cannot afford the required ICT infrastructure. Kaumba et al. (2021) revealed that, the teaching of the ICT component particularly in Creative and Technology Studies in rural schools of Mwinilunga district faced many challenges such as lack of ICT equipment and lack of supportive infrastructure. Thus, the cost of ICT use must align with the abilities of the users. Therefore, government, being a major stakeholder in the provision of education to the citizens, must provide mechanisms for development of ICT infrastructure in all higher learning institutions at an affordable cost so that online learning can be enhanced. One of the ways governments can help to achieve this milestone is through the introduction of zero tax on ICT equipment bought by all higher learning institutions in Zambia.

Quality and affordable Internet Connectivity

The subject of internet connectivity has been at the center of many studies in the ICT sector of late and the

current study was no exception. This is because poor internet connectivity affects effective implementation of online learning and the morale of both educators and learners. A study conducted at Levy Mwanawasa Medical University on the assessment of online learning among students of higher learning institutions in the midst of COVID 19 lock down showed that; out of the 96.9% of the students who participated in the survey and attended online learning classes, majority of the students opined that face to face learning approach was the most preferred because of the poor online learning experiences which was largely caused by poor internet network and lack of data bundle (Mwansa et al., 2021). It is evident that the current online learning implementation approach need to be reformed in order to make the teaching approach attractive.

The current study has revealed significant steps being taken by the government and ISP to connect public higher learning institutions to quality and affordable internet service but this must be extended even to private universities under the flagship of the Government of Zambia if online learning is to be enhanced. The proposed framework will therefore play a significant role in guiding decision makers and the Ministry of Education on the key areas of focus on the online learning enhancement journey.

Provision of Learning Management Systems and Edu roam for Free

A learning management system is a software platform that helps to create, manage and deliver educational or training programs, for instance, zoom; while Edu roam is an international Wi-Fi internet access roaming service for users in research and higher education which provides simple, easy and secure connectivity from thousands of hotspots.

This study showed that, ZAMREN provides learning management systems like Moodle, Zoom, Big Blue Button and Edu roam service for free in order to enhance access to fast and affordable internet service to learning institutions connected to it. This development is progressive as previous studies cited high cost of software and internet bundle as one of the hindrances to effective online learning in Zambia (Kaumba et al., 2021; Hapompwe et al. 2021; Mwila et al., 2021). This framework therefore, proposes that ISPs must provide learning management systems and Edu roam service for free to all higher learning institutions connected to them so that online learning can be enhanced for the benefit of learners and educators. ISPs need to contribute to the growth of the online learning pedagogy in Zambia as key stakeholders and as part of their corporate social responsibility.

ICT Training

The goal of ICT training is to ensure that educators and learners have relevant skills to enable them navigate the intricacies of online learning. However, results of this study revealed some inconsistencies in this area. While other universities trained both educators and learners on the use of the online learning platform for teaching and learning respectively, some universities neglected the learners when it came to ICT training.

It is in this vein that the framework proposes ICT training of all educators and learners engaged in online learning so as to enhance their computer expertise. Khaloufi and Laabidi (2017) stated that educators who are very knowledgeable in the use of ICT gadgets demonstrate higher levels of integration of computer technology in their teaching than those with less computer skills. Higher learning institutions must therefore take ICT training as a serious component of online learning.

ICT Support

ICT support is the term used to describe the assistance and services offered to people in connection to their usage of ICTs. The study revealed that, most of the higher learning institutions provide ICT support to both learners and educators so that technology should not be a hindrance to effective online teaching and learning, which is commendable. In addition to the foregoing, Journell (2012) stated that students need to learn what to expect from online learning in terms of instructions on the habits needed for successful online learning experiences and examples of how to communicate with classmates and educators regularly. Not only that, ICT training gives participants confidence to join online learning on the part of learners and the confidence to teach online on the part of educators.

Furthermore, Li and Lee (2016) argues that, as long as learners have the skills to use online tools and perceive

that online education is a useful and flexible way of learning, communicating and sharing, their enjoyment from online instruction will be promoted. These viewpoints signify the importance of ICT support in online learning and also justify the need for universities to strengthen ICT support for educators and learners.

Provision of ICT Resources to Educators and Learners

ICT resources generally refer to all hardware devices such as desk top computers, laptops, mobile phones, tablets, among others that allow users to access, create and share information. The study concluded that educators and learners engaged in online learning were not provided with the necessary ICT resources in most of the higher learning institutions to support online teaching and learning.

Besides that, statistical analysis of educators' perception of the online learning pedagogy with respect to resources showed that, educators were not satisfied with the resources that were provided by the respective universities for effective teaching via the online platform. These findings were not unique, but were in line with the results of the studies conducted by other scholars. For example, Mukosa and Mweemba (2019) made it clear that the high cost of internet bundle, lack of devices for internet access and also the poor quality of internet services in Zambia were the major challenges in implementing online learning.

It is therefore the position of this study that, all higher learning institutions that offer online learning must be compelled to provide necessary online learning resources, alongside other online learning variables to both educators and learners as highlighted in the proposed online learning policy framework guideline if online learning is to be enhanced.

CONCLUSIONS AND RECOMMENDATIONS

The study brought to the fore some of the strategies that could be used to enhance online learning in Zambia such as facilitation of learners' acquisition of ICT gadgets at an affordable price by respective universities, pushing more Investment in online learning software such as zoom, introduction of mandatory ICT courses in colleges and universities in order to equip graduates with relevant skills that would make teaching via online platforms viable and effective; and introduction of tax incentives on all ICT equipment bought by higher learning institutions in order to make them more affordable among others.

The study also showed that some higher learning institutions conducted online learning without a clear policy guideline. Majority of the learning institutions relied on distance learning policy developed many years ago for guidance. Thus, development of an innovative online learning policy framework is not an option but an activity which must be undertaken if online learning is to be enhanced in Zambia. Therefore, it is necessary to address some constraining factors on online learning as revealed in this study in order for this pedagogy to be enhanced and achieve the intended objective.

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

1. Government needs to introduce tax incentives on ICT equipment bought by higher learning institutions such as computers, tablets and other accessories for education purposes. This will make these gadgets easily accessible and affordable for the benefit of all learners and educators engaged in online learning.
2. Government of Zambia through MOE needs to develop regulation framework of online learning so that institutions of higher learning are compelled to meet the standards.

Researchers recommend that; other researchers and stakeholders make use of the framework in this study to come up with viable online learning platforms that would suit the current educational demands and variability. Additionally, a follow-up study examining the long-term effects of implementing the recommended strategies and the online learning policy framework would be valuable in assessing their real-world effectiveness. This could also include measuring student outcomes in terms of academic performance, engagement, and satisfaction with online learning.

REFERENCES

1. Bada, Olusegun, S., 2015. Constructivism Learning Theory: A Paradigm for Teaching and Learning. *IOSR Journal of Research & Method in Education* 5, 66–70. <https://doi.org/10.9790/7388-05616670>
2. Daka, H., Mugala, A., Mukuka Mulenga -Hagane, L., Kalimaposo, K., 2022. Academic flaws in the face of the Covid-19 Pandemic: A case of University of Zambia students. *International Journal of Research and Scientific Innovation* IX.
3. Ertmer, P.A., Newby, T.J., 1993. Behaviorism, Cognitivism, Constructivism: Comparing Critical Features from an Instructional Design Perspective. *Performance Improvement Quarterly* 6, 50–72. <https://doi.org/10.1111/j.1937-8327.1993.tb00605.x>
4. Fadzil, M., abdol latif, L., Munira, T., 2015. MOOCs in Malaysia: a preliminary case study, in: *E-ASEM Forum: Renewing the Lifelong Learning Agenda for the Future*.
5. Fiorini, L., Griffiths, A., Houdmont, J., 2016. Mixed methods research in the health sciences: A review. *Malta Journal of Health Sciences*. <https://doi.org/10.14614/MIXMETHRES/7/16>
6. Hapompwe, Dr.C., Kukano, Dr.C., Sichoongwe, K., 2021. Challenges and prospects for quality higher education via e-learning platforms in private universities: A case study of Acacia University Zambia. *International Journal of Scientific and Research Publications (IJSRP)* 11, 387–395. <https://doi.org/10.29322/ijsrp.11.04.2021.p11252>
7. Henaku, E.A., 2020. COVID-19: Online learning experience of college students: The case of Ghana, *International Journal of Multidisciplinary Sciences and Advanced Technology*.
8. Jayaratne, K.S.U., Moore, G., 2017. Perceptions of college students toward online classes. *North American Colleges and Teachers of Agriculture (NACTA)* 61, 304–309. <https://doi.org/10.2307/90021479>
9. Journell, W., 2012. Walk, don't run — to online learning. *The Phi Delta Kappa International* 93, 46–50.
10. Kathuria, H., Becker, D., 2021. Leveraging a course quality checklist to improve online courses. *Journal of Teaching and Learning with Technology* 10, 400–407. <https://doi.org/10.14434/jotlt.v9i2.31253>
11. Kaumba, M., Mphahlele, S., Muleya, G., Simui, F., Info, A., 2021. Disablers and enablers in the uptake of information communication technologies in rural primary schools of Mwinilunga District, Zambia. *Journal of Educational Technology & Online Learning* 4, 1–10. <https://doi.org/10.31681/jetol.791306>
12. Kaware, S.S., Sain, S.K., 2015. ICT Application in Education: An Overview. *International Journal of Multidisciplinary Approach and Studies* 2, 25–32.
13. Kenzig, M.J., 2015. Lost in Translation: Adapting a Face-to-Face Course into an Online Learning Experience. *Health Promot Pract* 16, 625–628. <https://doi.org/10.1177/1524839915588295>
14. Khaloufi, A., Laabidi, H., 2017. An Examination of the Impact of Computer Skills on the Effective Use of ICT in the Classroom. *Indonesian Journal of EFL and Linguistics* 2, 53. <https://doi.org/10.21462/ijefll.v2i1.29>
15. Kisanga, D., Ireson, G., 2015. Barriers and strategies on adoption of e-learning in Tanzanian higher learning institutions: Lessons for adopters, *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*. Retrieved March 24, 2025 from <https://www.learntechlib.org/p/151845/>.
16. Konayuma, G.S., 2012. A Critical Discourse Analysis of e-Learning Policies in Education and Training in Zambia.
17. Kotoua, S., Ilkan, M., Kilic, H., 2015. The growing of online education in Sub Saharan Africa: Case study Ghana. *Procedia Soc Behave Sci* 191, 2406–2411. <https://doi.org/10.1016/j.sbspro.2015.04.670>
18. Li, L.-Y., Lee, L.-Y., 2016. Computer Literacy and Online Learning Attitude toward GSOE Students in Distance Education Programs. *Higher Education Studies* 6, 147. <https://doi.org/10.5539/hes.v6n3p147>
19. Magasu, O., Lubungu, J., Kamboni, L., Sakala, E., Kapanda, B., 2022. Implementation of Blended Learning in Higher Learning Institutions in Zambia: A Case of Kwame Nkrumah University. *European Journal of Education and Pedagogy* 3, 214–218. <https://doi.org/10.24018/ejedu.2022.3.3.341>
20. Mikre, F., 2011. The Roles of Information Communication Technologies in Education Review Article with Emphasis to the Computer and Internet. *Ethiopian Journal of Education and Sciences* 6, 109–126.
21. Mukosa, F., Mweemba, B., 2019. The Digital Divide Hindering E-learning in Zambia. *International*

- Journal of Scientific Research and Engineering Development 2, 860–865.
22. Mundende, K., Kakana, F., Simui, F., Namangala, B., 2021. Zambia Journal of Distance Education Implementation of Astria E-Learning Solutions in Zambia: Inclusive Education innovations View project Xenomonitoring for African Trypanosomiasis View project. Zambia Journal of Distance Education 1, 80–88.
 23. Mwale-Mkandawire, M., 2020. Coping strategies to learning challenges faced by rural distance students at the University of Zambia. The University of Zambia.
 24. Mwalimu, E.C., Mulauzi, F., Mwiinga, T.M., 2017. Use of social media among University of Zambia lecturers in teaching and learning.
 25. Mwansa, C., Bupe Bwalya, B., Mwenya, R., 2021. An assessment of online learning among students of higher learning institution in the midst of COVID-19 lock down: A case study of Levy Mwanawasa Medical University in Lusaka district of Zambia, Mulungushi University Multidisciplinary Journal.
 26. Mwila, K., Mudenda, S., Kampamba, M., Mufwambi, W., Lungile, E.S., Phiri, M., Hikaambo, C.N., 2021. Factors Affecting Access to E-Learning during the Coronavirus Disease 2019 Pandemic Among Rural-Based Pharmacy Students in Zambia: A Qualitative Study. Epidemiology – Open Journal 6, 25–34. <https://doi.org/10.17140/EPOJ-6-124>
 27. Panigrahi, R., Srivastava, P.R., Sharma, D., 2018. Online learning: Adoption, continuance, and learning outcome—A review of literature. Int J Inf Manage 43, 1–14. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.05.005>
 28. Paschal, J.M., Mkulu, D.G., 2020. Online classes during COVID-19 Pandemic in higher learning institutions in Africa. Global Research in Higher Education 3, p1. <https://doi.org/10.22158/grhe.v3n3p1>
 29. Pedro, N.S., Kumar, S., 2020. Institutional support for online teaching in quality assurance frameworks. Online Learning Journal 24, 50–66. <https://doi.org/10.24059/olj.v24i3.2309>
 30. Prokopiadou, G., 2012. Using Information and Communication Technologies in School Administration: Researching Greek Kindergarten Schools. Educational Management Administration & Leadership 40, 305–327. <https://doi.org/10.1177/1741143212436953>
 31. Pynoo, B., Devolder, P., Tondeur, J., van Braak, J., Duyck, W., Duyck, P., 2011. Predicting secondary school teachers' acceptance and use of a digital learning environment: A cross-sectional study. Compute Human Behave 27, 568–575. <https://doi.org/https://doi.org/10.1016/j.chb.2010.10.005>
 32. Sahin, I., Shelley, M., 2008. Considering Students' Perceptions: The Distance Education Student Satisfaction Model. Educational Technology & Society 11, 216–223. <https://doi.org/10.2307/jeductechsoci.11.3.216>
 33. Sakyi, K.A., Mukosa, F., Mweemba, B., Katebe, M., 2019. Opportunities Threats and Challenges in Anarchistic and Autarkic States-Utopian States versus Dystopian States-Plight of Communities and Individuals in the Modern World. Urban Studies and Public Administration 2, p139. <https://doi.org/10.22158/uspa.v2n3p139>
 34. Schiller, J., 2003. Working with ICT: Perceptions of Australian principals. Journal of Educational Administration 41, 171–185. <https://doi.org/10.1108/09578230310464675>