



The Impact of Remote Learning on Educational Outcomes: A Case of Selected Higher Learning Institutions in Lusaka District, Zambia

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ABSTRACT:

Overview: Remote learning has become a significant part of education worldwide, especially after the COVID-19 pandemic. This study focused on Lusaka District, exploring the benefits, challenges, and overall effectiveness of remote learning methods in higher education.

Body of Knowledge: Remote learning has significantly influenced educational outcomes, producing both positive and negative effects. On one hand, it has increased accessibility, allowing students from various geographical locations to attend classes and access resources that were previously unavailable. This mode of learning has promoted flexibility, enabling learners to balance studies with personal commitments. Technological advancements have facilitated innovative teaching methods, incorporating multimedia and interactive tools that can enhance engagement and comprehension.

Methods: This study employed a mixed-methods approach, combining historical analysis, case studies, and interviews with key stakeholders, including University lecturers, University students and officials from Higher Education Authority. The sample consisted 215 respondents. Data was collected from a range of primary and secondary sources to ensure a comprehensive and nuanced understanding of the subject. On the other hand, quantitative method made the use of questionnaires, surveys and experiment to gather data that is revised and tabulated in numbers, which allowed the data to be characterized by use of statistical analysis.

Results: The shift to remote learning has highlighted disparities in digital access, with students from lower socioeconomic backgrounds often facing challenges due to lack of reliable internet and devices. The absence of in-person interaction has impacted social development and collaboration skills, while the reduced face-to-face support from instructors has affected the motivation and academic performance of some students.

Recommendation: Universities should enhance broadband infrastructure to ensure reliable and affordable internet access for students and lecturers.

Keywords: Accessibility, Curriculum, Equity, Higher Learning Institutions, and Student Achievement.

1. INTRODUCTION

Remote learning refers to an educational process where students and instructors are not physically present in a traditional classroom environment. Instead, they engage in the learning process through digital platforms and communication tools, allowing them to participate in educational activities from different locations (Xu et al, 2021). The impact of remote learning on educational outcomes has been multifaceted, encompassing both positive and negative effects. On one hand, remote learning has provided greater flexibility, allowing students to access education from any location and often at their own pace, which can benefit those with unique learning needs or schedules (Pascarella & Terenzini, 2005) It has also accelerated the integration of technology in education, fostering digital literacy and preparing students for a tech-centric future. However, the shift has also highlighted significant disparities in access to necessary resources such as high-speed internet and adequate devices, exacerbating the digital divide. Additionally, the lack of in-person interaction has affected student engagement, motivation, and the development of social skills, potentially leading to decreased academic performance and increased feelings of isolation (Chikopela et al, 2022). Teachers have faced challenges in adapting their methods to virtual platforms, often without sufficient training or support. The overall impact of remote learning on educational outcomes is complex, influenced by factors such as socioeconomic status, access to technology, and the adaptability of both students and educators.

Chanda (2023) says that education is a multifaceted process that goes beyond the mere transmission of knowledge and skills; it is the cultivation of intellectual, emotional, and social capacities that enable individuals to navigate and contribute to the world. It fosters critical thinking, creativity, and the ability to engage in lifelong learning, equipping people to adapt to ever-changing environments and challenges. Education also plays a pivotal role in shaping ethical and civic values, promoting a sense of responsibility and community. By providing opportunities for personal growth and empowerment, education enhances individual potential and drives societal progress, fostering a more informed, equitable, and cohesive world (Blythman & Orr, 2003). Accessibility in education refers to the design and implementation of educational environments, resources, and practices that accommodate the diverse

needs of all students, including those with disabilities (Chanda & Madoda, 2024). This concept encompasses ensuring that physical spaces, digital content, instructional methods, and assessments are usable by everyone, regardless of their abilities or backgrounds. It involves removing barriers that might prevent students from fully participating in the learning process, such as providing assistive technologies, flexible learning options, and inclusive curricula. By fostering an accessible educational setting, institutions aim to promote equity, enhance learning outcomes, and support the full inclusion and participation of all learners in the academic community.

The term "curriculum" refers to the structured set of educational experiences, content, lessons, and objectives designed to facilitate learning and achieve specific educational outcomes in a school or educational program. It encompasses not only the subjects taught but also the methods of instruction, materials used, and assessments employed to measure student progress (Hart & Donnelly, 2017). The curriculum is crafted to meet educational standards and goals set by educational authorities, ensuring that students acquire the necessary knowledge, skills, and competencies at each stage of their education. It serves as a blueprint for educators, guiding them in delivering consistent and comprehensive education that aligns with academic, social, and developmental objectives. A curriculum in education refers to the structured set of educational experiences provided by an institution, encompassing the subjects and materials that students are expected to learn. It outlines the objectives, content, lessons, assessments, and teaching methods utilized to achieve educational goals. The curriculum serves as a framework guiding both teachers and students, ensuring a coherent and comprehensive learning process (Lave & Wenger, 2015). It is designed to develop students' knowledge, skills, attitudes, and values, preparing them for further education, careers, and responsible citizenship. A well-structured curriculum is dynamic, adapting to societal changes, technological advancements, and the evolving needs of learners.

Higher learning institutions, commonly referred to as colleges or universities, are establishments dedicated to education beyond the secondary level. They offer undergraduate, graduate, and professional degrees across various fields of study (Chanda, 2024). These institutions play a crucial role in fostering intellectual growth, critical thinking, and advanced knowledge. They serve as centers for research and innovation, contributing to the development of new technologies, scientific discoveries, and cultural advancements. Higher learning institutions also prepare students for professional careers, providing them with the skills and expertise needed to succeed in a competitive global economy. Furthermore, they promote social mobility by offering opportunities for personal and professional development to individuals from diverse backgrounds. Equity in education refers to the principle of fairness and justice in providing educational opportunities, ensuring that every student, regardless of their socio-economic status, race, gender, disability, or any other characteristic, has access to the resources, opportunities, and support they need to succeed. This involves recognizing and addressing the diverse needs of students, removing barriers to learning, and implementing policies and practices that promote inclusivity and equal access to high-quality education (Parisi et al, 2019). Equity in education aims to close achievement gaps, reduce disparities, and empower all students to reach their full potential, thereby fostering a more inclusive and just society.

Student achievement in education refers to the measurable performance and outcomes of students in their academic pursuits (Kikwato et al, 2023). It encompasses a range of indicators such as grades, test scores, graduation rates, and proficiency in core subjects like math, science, and literacy. Beyond academics, student achievement also includes the development of critical thinking, problem-solving skills, and social and emotional growth. It is influenced by various factors, including the quality of teaching, access to resources, parental involvement, and the learning environment. High levels of student achievement are often associated with effective educational practices and policies that support the holistic development of learners (Mboozu et al, 2024).

1.2 Statement of the problem

The impact of remote learning on educational outcomes in higher learning institutions in Lusaka District, Zambia, has become a critical area of study, especially in the wake of the COVID-19 pandemic, which forced a sudden shift from traditional in-person education to online platforms. This study sought to explore how this transition has affected the quality of education, student engagement, and overall academic performance in selected institutions. Challenges such as limited access to technology, varying levels of digital literacy among students and faculty, and the effectiveness of online teaching methods are key factors to be examined (Singh & Talwar, 2020). Additionally, the research will consider how socio-economic disparities influence students' ability to adapt to remote learning environments. By investigating these aspects, the study aims to provide a comprehensive understanding of the benefits and drawbacks of remote learning and offer recommendations for improving educational outcomes in similar contexts.

1.3 Purpose of the Study

The purpose of the study was to investigate how the shift to remote learning during the COVID-19 pandemic has affected various aspects of education. This includes exploring changes in academic performance, student engagement, access to resources, and the overall effectiveness of remote teaching methods.

1.4 Objectives of the Study

- To analyze the effectiveness of remote learning methods in higher education in selected higher learning institutions in Lusaka district, Zambia.
- To identify challenges and opportunities associated with remote learning in selected higher learning institutions in Lusaka district, Zambia.

1.5 Theoretical Framework

The study was guided by the Technological Acceptance and Integration (TAI) Theory. This theory is a conceptual model that assesses how individuals and organizations adopt and utilize new technologies. It combines elements from several established theories, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). TAI examines factors influencing technology adoption, including perceived usefulness, ease of use, organizational support, and individual attitudes towards technology (Zohaib et al, 2024). It also considers integration aspects, focusing on how well technology fits within existing systems and workflows. By evaluating these factors, TAI provides insights into how effectively technologies are accepted, integrated, and utilized within specific contexts, guiding strategies for successful technology implementation and maximizing its impact on organizational and individual outcomes.

1.6 Significance of the Study

The study on the impact of remote learning on educational outcomes is significant for several reasons. Firstly, it addresses a critical shift in educational delivery accelerated by global events such as the COVID-19 pandemic, highlighting its implications for educational systems worldwide. Secondly, it offers insights into how remote learning influences student engagement, academic performance, and the overall learning experience, crucial for designing effective future educational strategies. Moreover, it contributes to the discourse on digital divide issues, examining disparities in access to technology and their effects on educational equity. Lastly, findings from this study can inform policymakers, educators, and stakeholders on adapting and improving remote learning practices to enhance educational outcomes effectively.

2. METHODOLOGY

The research design was descriptive survey with both qualitative and quantitative methods of data collection in order to attain the comprehensive results (Banda et al, 2017). Qualitative methods were appropriate to this investigation as it produced detailed data from a small group of participants, while exploring feelings, impressions and judgments. This study employed a mixed-methods approach, combining historical analysis, case studies, and interviews with key stakeholders, including 30 University lecturers; 5 coming from each selected institution. 180 University students; 30 coming from each selected institution and 5 officials from Higher Education Authority. The sample consisted 215 respondents; 10% of the target population 2150. The study was conducted in 6 higher learning institutions within Lusaka district. Data was collected from a range of primary and secondary sources to ensure a comprehensive and nuanced understanding of the subject. On the other hand, quantitative method made the use of questionnaires, surveys and experiment to gather data that is revised and tabulated in numbers, which allowed the data to be characterized by use of statistical analysis. The study upheld research ethical considerations such as voluntary participation of the respondents, confidentiality, honesty, and right of privacy.

3. FINDINGS AND DISCUSSIONS

3.1 The Effectiveness of Remote Learning Methods in Higher Education in Selected Higher Learning Institutions in Lusaka district

According to study results, the effectiveness of remote learning methods in higher education can vary based on several factors. The study found some key elements that influence the success of remote learning and its impact on educational outcomes. Technology Access and Infrastructure was at 20%, Quality of Learning Materials at 15%, Teaching Strategies at 20%, Student Engagement and Motivation at 10%, Assessment and Feedback at 15%, and Student Support and Services at 20%. Figure1 below summarized these findings.

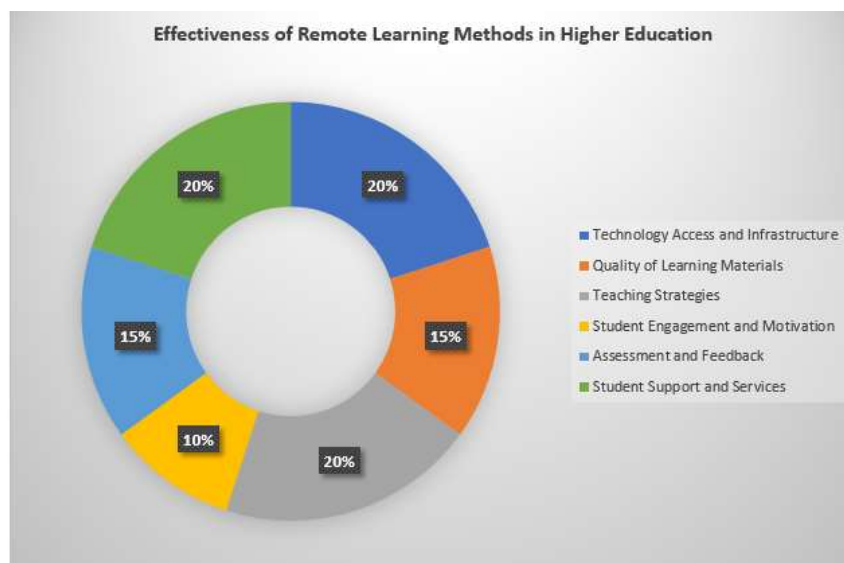


Figure1: Effectiveness of Remote Learning Methods in Higher Education

According to study results, access to technology and infrastructure plays a critical role in the effectiveness of remote learning methods in higher education. In Lusaka District, Zambia, the disparity in access to reliable internet and modern devices significantly impacts students' ability to engage with remote learning platforms. Many students face challenges due to limited or no access to high-speed internet, which hinders their participation in live lectures, submission of assignments, and access to educational resources. Additionally, the lack of adequate digital literacy among students and educators further complicates the integration of technology in the learning process (Felicia et al, 2020). Institutions that can provide necessary technological support, such as laptops, tablets, and internet data bundles, as well as training programs for digital skills, tend to see better outcomes in remote learning. However, the overall infrastructure, including consistent electricity supply and robust IT support systems, is crucial to sustain remote learning environments. Chanda & Zohaib (2024)'s study supported this finding by stating that harnessing Information Communication Technology (ICT) in teaching and learning presents a transformative opportunity to revolutionize the educational landscape. Without addressing these fundamental issues, the effectiveness of remote learning methods remains compromised, leading to disparities in educational attainment and widening the digital divide among students.

The study findings also indicated that the quality of learning materials plays a pivotal role in determining the effectiveness of remote learning methods in higher education. High-quality materials that are well-designed, engaging, and accessible are essential for promoting understanding and retention of information among students (Chanda, 2024). These materials should include a variety of formats such as videos, interactive simulations, and comprehensive readings to cater to different learning styles. The relevance and accuracy of the content are crucial, ensuring that it aligns with the curriculum and meets academic standards. Furthermore, the usability of these materials, including ease of navigation and clear instructions, significantly impacts students' ability to engage with and benefit from remote learning. Inadequate or poorly designed materials can lead to misunderstandings, reduced motivation, and ultimately, lower academic performance (Gulley & Mullendore, 2014). In the context of higher education in Lusaka District, Zambia, where there may be additional challenges such as limited internet access and technological resources, the quality of learning materials becomes even more critical. Ensuring that materials are optimized for low-bandwidth environments and are accessible on various devices can help mitigate these challenges and enhance the overall effectiveness of remote learning methods.

Furthermore, University lecturers noted that teaching strategies play a critical role in the effectiveness of remote learning methods in higher education. The respondents said that:

“Effective remote learning necessitates the adoption of diverse pedagogical approaches that accommodate various learning styles and needs”.

Interactive teaching strategies, such as synchronous video lectures, foster real-time engagement and immediate feedback, simulating a traditional classroom environment. Asynchronous methods, including recorded lectures and online discussion forums, provide flexibility, allowing students to learn at their own pace and revisit complex material (Zohaib et al, 2024). Incorporating multimedia resources, such as videos, podcasts, and interactive simulations, enhances understanding and retention by catering to different sensory preferences. Collaborative learning through virtual group projects and peer review activities promotes critical thinking and problem-solving skills, essential for higher education. Additionally, personalized learning paths, supported by adaptive learning technologies, can address individual student's strengths and weaknesses, ensuring a more tailored educational experience. Effective remote learning strategies also require continuous assessment and feedback mechanisms, utilizing digital tools to monitor student progress and provide timely interventions. The success of these strategies hinges on the instructors' ability to effectively integrate technology with pedagogical best practices, ensuring that the remote learning experience is engaging, interactive, and conducive to deep learning.

Additionally, University lecturers alluded that student engagement and motivation are critical factors in assessing the effectiveness of remote learning methods in higher education. Weller (2020)'s study noted that in a remote learning environment, maintaining high levels of student engagement and motivation can be challenging due to the lack of face-to-face interaction and the potential for increased distractions at home. Effective remote learning strategies often incorporate interactive and collaborative tools, such as discussion forums, video conferencing, and group projects, which can foster a sense of community and active participation among students. Additionally, clear and consistent communication from instructors, timely feedback, and the use of diverse multimedia resources can enhance students' intrinsic motivation and commitment to their studies. However, the digital divide, characterized by unequal access to reliable internet and technology, can negatively impact student engagement and motivation, particularly in regions with limited resources. Watjatrakul (2014) stated that by providing support services, such as virtual tutoring, mental health resources, and flexible learning schedules, can mitigate some of these challenges and promote a more inclusive and motivating learning environment. Overall, the effectiveness of remote learning in higher education is significantly influenced by the ability to maintain high levels of student engagement and motivation through thoughtful and equitable instructional design.

Moving on, University students observed that assessment and feedback are critical components in evaluating the effectiveness of remote learning methods in higher education. The students expressed that:

“In remote learning environments, diverse assessment methods such as online quizzes, assignments, peer reviews, and discussion forums can provide continuous evaluation of students' understanding and engagement”.

The immediacy and clarity of feedback in remote settings are paramount for fostering student learning and motivation. Technological tools, including learning management systems (LMS) and automated grading software, facilitate timely and personalized feedback, which helps address individual student needs and promotes self-regulated learning. However, the effectiveness of these assessment methods can be hindered by factors such as technological disparities among students, varying levels of digital literacy, and potential challenges in maintaining academic integrity (Alma et al, 2024). Additionally, the lack of face-to-face interaction might impede the development of deeper, more nuanced understanding and critical thinking skills. Despite these

challenges, well-designed remote assessment strategies that incorporate clear guidelines, regular check-ins, and constructive feedback can significantly enhance the learning experience, making remote education a viable alternative to traditional in-person methods.

Officials from HEA added that effective remote learning in higher education is greatly enhanced by comprehensive student support and services. These services include academic advising, mental health counseling, IT support, and access to digital libraries and learning resources. Allen & Seaman (2017) noted that academic advising helps students navigate their educational pathways, ensuring they remain on track with their studies and goals. Mental health counseling addresses the psychological well-being of students, which is crucial during the isolation often associated with remote learning. Robust IT support ensures that students can effectively utilize necessary technology and platforms, minimizing disruptions caused by technical issues. Access to digital libraries and learning resources ensures that students have the materials needed for their courses, promoting self-directed learning. Additionally, virtual peer mentoring and tutoring services can foster a sense of community and collaboration, which are often lacking in remote settings. Collectively, these support services play a pivotal role in mitigating the challenges of remote learning and enhancing educational outcomes by providing students with the necessary tools and assistance to succeed academically and personally (Bozkurt & Sharma, 2020). The effectiveness of remote learning in higher education is contingent on a combination of technological, pedagogical, and support factors. Tailoring these elements to the specific needs and contexts of institutions and students can enhance educational outcomes.

3.2.1 Challenges Associated with Remote Learning in Selected Higher Learning Institutions in Lusaka District

Table 1: Challenges Associated with Remote Learning in Selected Higher Learning Institutions

Socioeconomic Implications of Federalism & Decentralization	%
1. Digital Access and Infrastructure	15%
2. Technological Literacy	10%
3. Social Isolation	20%
4. Equity and Inclusivity	25%
5. Quality of Learning Experience	15%
6. Faculty Training and Support	15%

According to study results, University lecturers noted that digital access and infrastructure pose significant challenges to remote learning in higher learning institutions in Lusaka District, Zambia. They expressed that:

“Many students lack reliable access to essential technological tools such as computers, tablets, and smartphones”.

Additionally, stable and affordable internet connectivity remains a major hurdle, with many areas experiencing inconsistent service and high costs that are prohibitive for a substantial portion of the student population. Institutions themselves often struggle with inadequate digital infrastructure, including outdated hardware and insufficient bandwidth to support widespread remote learning. These technological limitations impede students' ability to participate in online classes, access digital resources, and engage in virtual collaborations, thereby widening the educational divide. Furthermore, the lack of technical support and training for both students and educators exacerbates these issues, making the transition to and the sustainability of remote learning particularly challenging. Addressing these infrastructural gaps is crucial to ensuring equitable access to education and the overall effectiveness of remote learning initiatives (Braxton et al, 2000). The respondents also stated that some students and even faculty may struggle with using online learning platforms effectively, which can hinder the teaching and learning process. Many students and even some faculty members lack the necessary skills to effectively use digital tools and platforms essential for online education. This deficiency impedes their ability to navigate learning management systems, participate in virtual classrooms, submit assignments electronically, and utilize digital resources for research and study. The gap in technological literacy is often exacerbated by limited access to reliable internet and up-to-date devices, further hindering the remote learning process (Singh & Talwar, 2020). Additionally, insufficient training and support from institutions contribute to the struggle, leaving students and educators to grapple with technical issues on their own. This digital divide not only affects the quality of education but also increases frustration and decreases motivation among students, ultimately impacting their academic performance and engagement.

Moving on, students alluded that they may feel isolated and disconnected from their peers and instructors, which can impact their overall well-being and academic performance. With the transition to online education, the students often find themselves detached from the social interactions that are integral to the traditional classroom experience. The respondents expressed that:

“This isolation can lead to feelings of loneliness, reduced motivation, and a sense of disconnection from peers and faculty”.

The lack of face-to-face interaction impedes the development of crucial soft skills such as communication, teamwork, and networking, which are typically fostered through in-person engagement. Moreover, the absence of a supportive community environment can exacerbate stress and anxiety, negatively impacting students' mental health and overall well-being. These factors collectively hinder academic performance and diminish the overall quality of the educational experience, highlighting the need for institutions to implement strategies that mitigate the effects of social isolation in remote learning context

(Brown et al, 2018). Furthermore, the respondents added that the digital divide exacerbates disparities among students, as access to reliable internet and appropriate technological devices is uneven. Students from low-income backgrounds, rural areas, or marginalized communities often face difficulties in obtaining the necessary tools and resources for effective online learning. Additionally, remote learning can fail to accommodate students with disabilities adequately, as many digital platforms are not fully accessible or lack the necessary accommodations. The shift to online education also highlights issues related to gender disparities, where female students may encounter more obstacles due to household responsibilities or societal expectations. Moreover, language barriers can impede learning for students who are not proficient in the primary language of instruction used in digital platforms. These factors collectively contribute to a learning environment that struggles to ensure equal opportunities and inclusivity for all students, thereby undermining the potential benefits of remote education in promoting educational equity. Phiri et al (2023)'s study supported this finding by stating that English is Zambia's national official language which is used as a means of communication and also as the language of particular activities such as education, commerce, and politics.

Officials from HEA explained that quality of the learning experience in remote learning has emerged as a significant challenge in higher learning institutions in Lusaka District, Zambia. The officials noted that:

"One primary concern is the inconsistency in internet connectivity, which disrupts live sessions and access to online resources, leading to gaps in learning".

The lack of face-to-face interaction diminishes opportunities for immediate feedback and hands-on learning experiences, essential for subjects requiring practical engagement. Additionally, the limited digital literacy among both students and educators hampers the effective use of educational technologies, causing difficulties in navigation and utilization of online platforms. This often results in a passive learning environment, where students might struggle with motivation and engagement. The absence of a structured, interactive learning atmosphere can lead to decreased student participation and lower retention of information (Chanda & Siyunda, 2023). Furthermore, there is a disparity in access to necessary digital devices, with some students relying on inadequate or shared equipment, which further hinders their learning experience. These factors collectively contribute to a compromised quality of education, reflecting the urgent need for improved infrastructure, training, and support systems to enhance remote learning efficacy in these institutions. The respondents further observed that many faculty members lack the necessary skills and experience to effectively deliver online education, which often requires different pedagogical approaches compared to traditional in-person teaching. Mpolomoka et al (2017) says that this gap is exacerbated by insufficient institutional support for professional development in digital literacy and online teaching methods. Additionally, limited access to reliable technology and internet connectivity further hinders the ability of faculty to engage fully with remote learning tools and platforms (Gupta & Kumar, 2019). The rapid shift to remote learning, driven by the COVID-19 pandemic, has exposed these shortcomings, revealing a critical need for comprehensive training programs and ongoing support to ensure faculty can adapt to and thrive in an online teaching environment. Without addressing these issues, the quality of education delivered remotely may suffer, impacting student engagement and learning outcomes. Chanda et al (2024) pointed out that addressing these challenges often requires a combination of policy initiatives, technological investments, and pedagogical adaptations to ensure that all students have equal access to quality education regardless of their circumstances.

3.2.2 Opportunities Associated with Remote Learning in Selected Higher Learning Institutions in Lusaka District

Remote learning in higher learning institutions, particularly in the context of Lusaka District, Zambia, presents several opportunities. The study results noted that Increased Access to Education was at 25%, Cost Savings at 10%, Flexible Learning Schedules at 15%, Enhanced Technological Skills at 20%, Personalized Learning Experience at 10%, Continuity of Education at 15%, and the least was Collaborative Learning Opportunities at 5%. Figure 2 below summarized these findings.

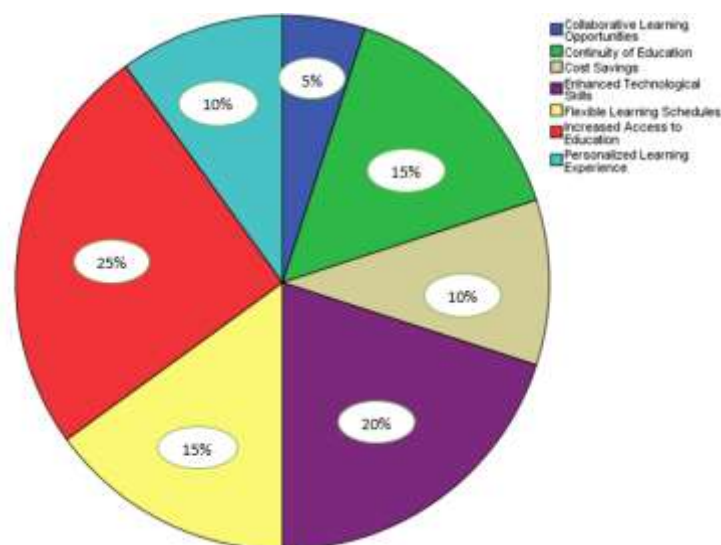


Figure2: Opportunities Associated with Remote Learning in Selected Higher Learning Institutions

The study findings revealed that remote learning has significantly increased access to education in higher learning institutions, particularly in Lusaka District, Zambia. By leveraging digital platforms, students who previously faced geographical, financial, and time constraints can now pursue higher education from any location. Zenke et al (2017) says that this flexibility allows learners to balance their studies with work or family commitments, reducing the need for commuting and related expenses. Additionally, remote learning accommodates diverse learning styles and paces, offering recorded lectures and a wealth of online resources that students can revisit as needed. This mode of learning also fosters inclusivity by providing opportunities for non-traditional students, such as working adults and those with disabilities, to further their education. Furthermore, it has enabled institutions to expand their reach, enroll more students, and offer a broader range of courses and programs, thereby enhancing the overall educational landscape in the region. Additionally, cost savings represent a significant opportunity associated with remote learning in higher learning institutions in Lusaka District, Zambia. By adopting remote learning, these institutions can reduce operational expenses related to physical infrastructure, such as maintenance, utilities, learning materials and campus security. According to Chanda (2023), instructional materials enhance the teaching/learning process by exhibiting information necessary to acquire knowledge and skills. Additionally, remote learning decreases the need for physical materials like printed handouts and textbooks, as digital resources can be utilized instead. Faculty and administrative costs can also be optimized, as institutions may leverage online tools to streamline administrative processes and enhance teaching efficiency. For students, remote learning offers savings on commuting, accommodation, and other living expenses associated with on-campus education. Furthermore, the flexibility of remote learning can allow students to maintain employment while studying, thus mitigating the financial strain of full-time education. Collectively, these cost-saving opportunities make remote learning a financially attractive model for both institutions and students in the region (Hodges et al, 2020).

University lecturers stated that flexible learning schedules are a significant advantage of remote learning in higher learning institutions. They offer students the ability to tailor their study times to fit their personal, professional, and social commitments, thus promoting a balanced lifestyle. The respondents explained that:

“This flexibility can lead to improved academic performance as students can choose their most productive hours for studying”.

Additionally, it accommodates diverse learning paces, allowing students to progress through course materials at a speed that suits their understanding and retention capabilities. For working students or those with familial responsibilities, flexible schedules minimize the conflict between educational and personal obligations, reducing stress and enhancing overall well-being. Furthermore, this adaptability can increase access to education for non-traditional students, such as those in remote areas or with mobility issues, by removing the constraints of fixed class times and physical attendance (Chanda, 2023). In Lusaka District, where many students juggle multiple roles, the flexibility of remote learning schedules can significantly contribute to higher enrollment and completion rates in higher learning institutions.

The officials from HEA also added that Remote learning in selected higher learning institutions in Lusaka District, Zambia, has notably enhanced technological skills among both students and educators. As they navigated the shift from traditional classroom settings to virtual platforms, they were compelled to familiarize themselves with various digital tools and software. This necessity fostered a rapid acquisition of skills in using Learning Management Systems (LMS), video conferencing tools, and collaborative online platforms. Students gained proficiency in digital literacy, including effective online research, digital communication, and content creation, which are invaluable in the modern job market (Chan, 2005). Educators, on the other hand, improved their capabilities in designing and delivering online courses, using multimedia resources, and managing virtual classrooms. This technological upskilling has not only enhanced the quality of education but also prepared both groups for a future where digital fluency is increasingly essential. Furthermore, the integration of technology in education has opened up opportunities for innovative teaching and learning methods, thus broadening the scope and accessibility of education (Chanda & Zohaib, 2024). The officials further noted that personalized learning experiences represent a significant opportunity associated with remote learning in higher learning institutions in Lusaka District, Zambia. The respondents expressed that:

“This approach tailors educational content and pacing to individual students' needs, preferences, and learning styles, thereby enhancing engagement and comprehension. With the flexibility of remote learning, students can access a wide range of resources, including video lectures, interactive simulations, and digital textbooks, allowing them to learn at their own pace and revisit challenging concepts as needed”.

Advanced learning management systems and adaptive learning technologies further support personalized learning by providing real-time feedback, tracking progress, and recommending targeted interventions. Hardré et al (2010) added that this individualized approach can lead to improved academic performance, greater student satisfaction, and higher retention rates. Additionally, personalized learning can accommodate diverse student populations, including those with different educational backgrounds, learning disabilities, or varying levels of prior knowledge, thus promoting inclusivity and equity in education.

Moving on, the students stated that remote learning ensures that education continues uninterrupted during pandemics, natural disasters, or other crises that prevent physical attendance. Remote learning ensures that education persists despite disruptions such as natural disasters, pandemics, or other emergencies that might otherwise halt traditional in-person classes. In higher learning institutions, this continuity means that students can progress through their courses without significant delays, maintaining the momentum of their education and preventing gaps in their learning journey. The respondents noted that:

“This flexibility allows institutions to adhere to academic calendars and graduation timelines, ensuring that students do not face extended periods of inactivity that could affect their academic performance and future career prospects”.

Moreover, remote learning can provide access to a wider range of resources and expert lecturers who might not be available locally, thereby enriching the educational experience. This continuity also supports the institution's operational stability, allowing them to maintain enrollment numbers and

financial health even during challenging times. Overall, the ability to seamlessly continue education through remote learning represents a crucial advantage for higher learning institutions, fostering resilience and adaptability in the face of unforeseen challenges (LeCun et al, 2015).

Students added that collaborative learning opportunities in remote learning environments present a significant advantage for higher learning institutions. These opportunities leverage technology to enable students to engage in group work, discussions, and projects regardless of their physical locations. Virtual platforms such as Zoom, Microsoft Teams, and Google Classroom facilitate real-time communication and collaboration among students, fostering a sense of community and teamwork (Chanda et al, 2023). Additionally, asynchronous tools like discussion boards, shared documents, and group chats allow for continuous interaction and idea exchange, accommodating diverse schedules and time zones. Miller & Hafner (2008) noted that this flexibility enhances the collaborative process by allowing students to contribute at their own pace while still being part of a cohesive group effort. Furthermore, remote collaborative learning can expose students to a broader range of perspectives and ideas, as it often involves diverse participants who bring varied experiences and viewpoints. This enriched learning environment not only enhances critical thinking and problem-solving skills but also prepares students for the increasingly globalized and digital workforce (Chanda, 2023). These opportunities can significantly enhance the educational landscape in Lusaka District, Zambia, making higher education more accessible, flexible, and effective for a diverse range of students.

4. CONCLUSION

The study on the impact of remote learning on educational outcomes in Lusaka District, Zambia, reveals a complex interplay of factors influencing students' academic performance. The findings indicate that while remote learning has offered flexibility and continued access to education during disruptions like the COVID-19 pandemic, it has also exposed significant challenges. Key issues include limited access to reliable internet and technological devices, inadequate digital literacy among both students and educators, and varying levels of home support. These challenges have led to disparities in learning outcomes, with students from more affluent backgrounds generally faring better than their less privileged peers. However, the study also highlights positive aspects such as the development of self-discipline, time management skills, and the potential for integrating blended learning approaches in the future. Overall, the research underscores the need for targeted interventions to bridge the digital divide and enhance the effectiveness of remote learning strategies to ensure equitable educational opportunities for all students in Lusaka District.

5. RECOMMENDATIONS

The following are actions that should be taken on the basis of the findings of this study. By focusing on these areas, educational institutions in Lusaka District can enhance the effectiveness of remote learning and improve educational outcomes for students.

Infrastructure Development:

- **Improve Internet Access:** Universities should enhance broadband infrastructure to ensure reliable and affordable internet access for students and lecturers.
- **Provision of Devices:** Government through SCT provision to facilitate laptops, tablets, and smartphones to students who lack access to these essential tools.

Training and Support:

- **Teacher Training:** Government to provide comprehensive training for teachers on effective online teaching strategies and the use of digital tools.
- **Student Training:** Universities to offer orientation and continuous support for students to navigate online learning platforms and utilize digital resources effectively.

Equity and Inclusion:

- **Addressing Disparities:** Government to identify and address the specific needs of marginalized and disadvantaged groups to ensure equal access to remote learning opportunities.
- **Special Education Support:** Universities to provide tailored support for students with special educational needs to ensure they are not left behind in remote learning environments.

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