Examining the Key Actors' Perceptions on the Adoption of Blended Learning in Higher Education in Mali and Burkina Faso.

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ABSTRACT

This qualitative study explores key actors' perceptions of adopting blended learning in higher education in Mali and Burkina Faso. Blended learning, which combines face-to-face instruction with online methods, is increasingly adopted worldwide for its potential to improve educational outcomes and flexibility. The research involved 100 participants in higher education, including administrators, instructors, and purposefully selected students—using document reviews, observations, and interviews at universities in both countries. Findings reveal that blended learning enhances student engagement and academic performance through interactive and personalised experiences. However, challenges such as infrastructure deficits, digital literacy gaps, socio-cultural resistance, and inadequate support systems were also identified. The study recommends improving internet connectivity, implementing digital literacy programs, involving key actors, and developing context-specific models to ensure accessible, effective, and sustainable blended learning. Overall, the findings underscore the importance of addressing these challenges to enhance educational quality and outcomes.

Keywords: key actors, higher education, Blended learning, and adaptation.

INTRODUCTION

Similar to other disciplines, education incorporates various innovations, some of which are driven by technology. One such technological advancement is the integration of blended learning, which enhances the teaching and learning environment. A report from UNESCO (2024), asserts that Universities use information and communications technologies (ICT) such as the Internet, and many have adopted a ''blended learning'' approach to deliver course content. This innovative pedagogical approach has been embraced rapidly, though it goes through a process World Bank (2023). Blended learning, which combines face-to-face instruction with online learning, has been widely adopted in teaching and learning globally due to its potential to enhance educational outcomes and provide flexibility. UNESCO (2024) proposed the following basic features of blended learning environments: increased student engagement in learning, a sense of safety through personalised learning, collaborative tools such as social media communication, improved interaction between teachers and students, support for social learning, and accountability for learning and time management.

Blended learning in Mali has emerged as a key solution to educational challenges, especially in rural and underserved areas. Since 2020, research shows that integrating digital tools with traditional teaching helps overcome barriers like limited access to qualified teachers and resources. For example, Traoré et al. (2021) highlight that mobile-supported blended learning has improved student engagement and outcomes, particularly during the COVID-19 pandemic. By leveraging local technology, these models offer flexible, scalable solutions to Mali's educational disparities.

However, blended learning in Mali faces challenges such as infrastructure gaps, low digital literacy, and unreliable internet. While pilot projects by the government and NGOs show promise, sustainability is hindered by funding and technical support issues (Diallo et al., 2022). Nonetheless, recent efforts to improve

infrastructure and digital skills indicate a positive trend, aligning with Mali's development goals (Sissoko & Coulibaly, 2023). With continued investment and policy reforms, blended learning has the potential to significantly transform education in the country.

Blended learning in Burkina Faso has gained momentum, especially since the COVID-19 pandemic. Research from 2020 onward shows that combining digital tools with traditional teaching improves access in both urban and rural areas. A 2021 study by Savadogo et al. highlights how blended models offer greater flexibility for students and teachers, ensuring continuity during disruptions. Mobile devices and radio-based instruction have been particularly effective, addressing limited internet infrastructure and promoting inclusive education.

Recent evaluations highlight that successful blended learning in Burkina Faso relies on infrastructure, teacher training, and community involvement. Traoré et al. (2022) found that combining online platforms with community support improves learning outcomes, but challenges like limited digital literacy and infrastructure persist. Overall, research underscores blended learning's potential to transform education, emphasizing the need for ongoing investment and tailored strategies to ensure equitable access and effective teaching (UNESCO, 2023).

The core objective of this study is to examine the magnitude and underlying causes of blended learning in Mali's and Burkina's higher education system. More specifically, the study seeks to:

- Analyse the blended learning impact on student engagement in the learning outcomes in higher education.
- Examine the institutional learning environments support the adaptation of blended learning.
- Investigate the challenges in adapting blended learning in higher education.

To address these objectives, the study is guided by the following research questions:

- How does blended learning impact student engagement in the learning outcomes in higher education?
- How do institutional learning environments support the adaptation of blended learning?
- What are the challenges in adapting blended learning in higher education?

The two nations employ distinct digital learning strategies to tackle access hurdles and educational quality issues. Nonetheless, distinct hurdles hinder the implementation of blended learning in these places, including insufficient infrastructure, restricted digital literacy, and socio-economic disparities. The research rigorously analyses key actors viewpoints in blended learning.

Significance of the Study

The study on adapting blended learning in higher education is both theoretically and practically significant. It advances knowledge by exploring effective implementation in developing countries, examining perceptions of administrators, instructors, and students to identify factors influencing adoption and success. The research highlights challenges like infrastructure gaps, digital literacy, and socio-cultural barriers, offering insights for future frameworks. Practically, it guides institutions in Mali and Burkina Faso to develop tailored blended learning models, with recommendations to improve connectivity, digital skills, key actors involvement, and context-specific approaches. These efforts aim to enhance educational quality, student engagement, and the sustainability of blended learning initiatives.

LITERATURE REVIEW

Blended learning in higher education within Mali has garnered increasing attention in recent years as an innovative approach to enhance learning outcomes and address infrastructural challenges. Recent studies, such as Diarra et al. (2021), highlight that the integration of digital tools with traditional face-to-face instruction has improved student engagement and access to educational resources, particularly in urban universities. The adoption of blended learning strategies has been facilitated by the proliferation of mobile technology and

internet connectivity, which have become more widespread across Malian higher education institutions. However, challenges such as limited digital literacy among both students and faculty, as well as infrastructural deficiencies, continue to impede the full implementation of blended learning frameworks (Traoré & Keïta, 2022). These studies emphasize that successful integration requires not only technological investment but also capacity-building initiatives to enhance digital competence among educators and learners.

Recent research also indicates that blended learning has the potential to bridge educational gaps in Mali, especially in rural and underserved regions. For instance, Coulibaly and Sangaré (2023) found that blended modalities have increased access to quality higher education and fostered more flexible learning schedules, which are crucial for students balancing academic pursuits with other responsibilities. Nonetheless, the studies underscore the importance of contextual adaptation, suggesting that blended learning models must be tailored to Mali's unique socio-economic and infrastructural realities to be effective (Assou & Toure, 2020). Overall, while blended learning presents promising opportunities for Malian higher education, ongoing efforts are necessary to address persistent challenges and optimize its implementation across diverse institutional contexts.

Blended learning has expanded significant traction in higher education in Burkina Faso, especially in response to the increasing demand for flexible and accessible learning modalities amidst infrastructural challenges and the COVID-19 pandemic. Recent studies, such as Traoré et al. (2021), highlight that the integration of digital tools with traditional classroom methods has improved student engagement and learning outcomes in universities like the University of Ouagadougou. The adoption of blended learning approaches has been facilitated by governmental initiatives aiming to enhance digital infrastructure and promote e-learning platforms, although challenges such as limited internet access and digital literacy remain (Kaboré & Ouédraogo, 2022). These efforts have been crucial in ensuring continuity of education during periods of disruption, with teachers and students adapting to new modes of instruction that combine face-to-face and online components.
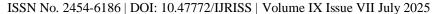
Furthermore, recent research emphasizes the potential of blended learning to foster inclusive education and address disparities in higher education access in Burkina Faso. According to Savadogo and Zongo (2023), implementing blended learning models has contributed to reducing geographical and socio-economic barriers, allowing more students from remote areas to participate in higher education. However, the successful implementation remains contingent upon addressing infrastructural limitations and providing adequate training for educators to effectively design and deliver hybrid courses (Nikiéma & Ouédraogo, 2020). Overall, the literature suggests that while blended learning presents promising opportunities for transforming higher education in Burkina Faso, sustained investment and policy support are essential for maximizing its benefits.

THEORETICAL FRAMEWORK

To comprehensively analyze blended learning in Mali and Burkina Faso settings it is essential to ground the research in context-sensitive educational theories. The combination of Constructivism in Blended Learning and Concerns-Based Adoption Model (CBAM) offers complementary lenses to interpret how systemic inequities shape educational outcomes, especially in developing, post-colonial contexts like Mali.

Constructivism in Blended Learning

Constructivism, developed by Piaget and Vygotsky, highlights cognitive development through social and cultural interaction. It posits that interaction with the environment shapes schemas—mental frameworks that organize knowledge (Vygotsky, 1962). The Zone of Proximal Development (ZPD) describes the gap between what learners can do alone and what they can achieve with guidance, emphasizing learning as a social, collaborative process. Students are encouraged to problem-solve and discuss rather than memorize. A student-centered approach integrates online and offline, synchronous and asynchronous practices to support this learning model.

Constructivist methods enhance student learning by incorporating collaborative projects and debates that foster independent understanding. Online discussion forums facilitate meaningful dialogue, diverse perspectives, and collective knowledge-building through guided prompts that stimulate critical thinking. Collaborative projects encourage idea exchange, problem-solving, and knowledge creation, adaptable to both online and offline settings with a mix of asynchronous and synchronous interactions. In-class activities further support experiential learning and peer engagement through teamwork, problem-solving exercises, and interactive lectures, promoting active participation.

Concerns-Based Adoption Model (CBAM)

In the 1970s, educational experts at the University's Research and Development Centre for Teacher Education developed the Concerns-Based Adoption Model (CBAM). According to Engelbertink et al. (2021), CBAM is a comprehensive framework designed to understand and support the implementation of new educational initiatives, particularly in higher education blended learning. It includes three key components: Stages of Concern (individual feelings and worries during change), Levels of Use (extent of engagement with the new program), and Innovation Configuration (adaptation and execution of the program). Understanding these elements helps educators address challenges such as digital literacy and socio-cultural resistance, ensuring effective and sustainable implementation (Jiang et al., 2024). CBAM offers a systematic approach for managing the adoption process and developing strategic implementation plans.

The Concerns-Based Adoption Model (CBAM) is a framework that helps understand and support how individuals adopt new practices, such as blended learning. In this approach, key actors' concerns evolve from self-related worries about their ability to adapt, to task-focused issues like designing activities, and finally to impact concerns regarding student outcomes. By addressing these stages, educators and administrators can provide targeted support, ensuring successful and effective implementation of blended learning strategies.

METHODOLOGY

Design

This study adopted a qualitative approach to explore key actors' perceptions of blended learning in higher education within Mali and Burkina Faso, chosen for its flexibility and cost-effectiveness. The research involved administrators, instructors, and students from the university, utilizing a case study methodology centered on key actors' views regarding the implementation and potential of blended learning to enhance teaching and learning outcomes. The focus was to understand how these key groups perceive the integration of blended learning environments and identify opportunities for improvement in higher education practices in these contexts.

Study Setting

The research was carried out in Mali and Burkina Faso, with a focus on higher education institutions. These countries were chosen due to their proactive efforts to incorporate technology into education through national strategies and initiatives. For example, Malian's National Digital Education Strategy emphasizes extensive efforts to equip schools and universities with computers and internet access. Similarly, Burkina's National Education Sector Plan highlights the integration of ICT into the educational system. The study specifically targeted universities in both nations, as these institutions are at the forefront of adopting blended learning models. They offer valuable insights into the effectiveness and sustainability of such innovative educational practices.

Furthermore, the researcher collaborated with practitioners at a designated university to develop a solution aimed at enhancing blended learning (Chafe, 2024). The study was conducted in both Mali and Burkina Faso. The selection of this university was guided by Kothari's (2004) principles for choosing a research setting. Key factors influencing the choice of the University of Bamako included its high accessibility, the potential to build

rapport and trust throughout the research process, the availability of relevant data, and the assurance of data credibility and quality within this context. This initiative is referred to as an intervention—a targeted activity or process designed to address the identified challenges faced by researchers and practitioners.

Sample size and strategy

The researchers selected a sample of 100 participants, including 20 administrators (10 administrators in each country), 10 instructors (5 in each country), and 70 students (35 in each country), from selected universities in both countries. This sample size was chosen to ensure a comprehensive and in-depth exploration of key actors' perceptions regarding adopting blended learning in higher education. However, all the participants were selected purposefully. Administrators were chosen based on their virtue, while the Interactors and students were selected based on their responsibility, experience and outcomes experience in technology integration.

Data Collection Method

The study collected data using semi-structured interviews. The semi-structured interviews were mainly used to allow for more flexibility in probing the answers given by each participant and to explore how participants perceived the use of blended learning in higher education in the context of teaching and learning. Ten administrators from two universities, planners, and program developers, were interviewed during data collection. However, eight instructors from selected courses were involved in the face-to-face interview, and fifty students were interviewed through Focus Group Discussion (FGD). Additionally, the document was review for official documentation.

Data analysis

To protect their anonymity, respondents were given special codes: Administration from (A1-20), instructors (I1-10), and students (S1-70). In Mali and Burkina Faso, document review covered public records, personal documents, physical materials, and researcher-generated documents to verify and supplement interview data (Walliman, 2021). Emphasis from Willis (2019) and R. Wu et al. (2024) supports that Online monitoring was used to track student interactions on the Slack platform during online activities.

Ethical Statement

In conducting this study, the researcher ensured that participants were made aware of the purpose of the study, the information being searched, how this information was going to be used, and what the expected benefits from the study were. The participants' information was confidentially enhanced during the reporting of findings by using arbitrary codes. On top of that, the participants were protected from physical and emotional harm, and participant interactions complied with ethical research standards. The rigorous ethical oversight ensured that the rights and welfare of participants were prioritized throughout the study, thus contributing to the integrity and reliability of the findings.

FINDINGS

The findings indicate that students actively participate in discussion forums, collaborative projects, and virtual classes, which fosters a stronger sense of community and engagement. During the focus group sessions, ten students shared that those enrolled in blended learning courses reported higher levels of interaction with both instructors and peers compared to traditional face-to-face classes. The integration of technology plays a crucial role in enabling a more personalized and effective educational experience.

"During our geography class, we undertook a project focused on climate change. Collaborating in groups, we utilized online resources to conduct research and shared our findings through discussion forums. This experience allowed us to engage actively with our classmates and teachers both online and in person." (Students of Mali)

This facilitates a deeper comprehension of the content and maintains engagement. Likewise, Instructors can use data from online learning platforms to assess students' progress and deliver prompt feedback, enhancing student engagement. Two instructors report. One of the most significant advantages of online learning platforms is the ability to track student progress in real-time.

"Through Learning Management Systems (LMS) like Canvas, to monitor student activity, including logins, online time, postings, and replies." (Students of Burkina Faso)

Blended learning enhances student engagement by incorporating a variety of multimedia resources such as films, simulations, and interactive quizzes. These tools effectively capture students' attention and motivate active participation in the learning process. According to interviews with three instructors, these approaches significantly contribute to a more dynamic and immersive educational experience.

"These tools support peer contact, active involvement, and knowledge production." (Instructors of Burkina Faso)

Conversely, blended learning has been shown to significantly enhance academic performance. Students engaged in blended courses often achieve higher grades and demonstrate a deeper understanding of the subject matter compared to their counterparts in traditional face-to-face settings. Assessment data indicates that students enrolled in blended learning environments tend to have higher overall Grade Point Averages (GPAs). Additionally, the integration of online and in-person instruction offers diverse learning activities that foster critical thinking and problem-solving skills. Participating in online discussions and collaborative projects encourages students to analyze content, consider multiple perspectives, and develop well-reasoned solutions to complex issues.

A study revealed that students engaged in these courses demonstrated superior critical thinking skills, leading to a more adaptable and diverse educational experience, as well as improved information retention. Incorporating various learning modalities—such as films, books, and experiential activities—can significantly enhance understanding and support long-term memory. The findings also indicate that students generally possess essential self-discipline and time management skills. Since some learning occurs online and requires personal initiative, students must be capable of managing their time effectively and staying motivated. Educational institutions can support the development of these competencies by providing resources such as time management workshops and online materials focused on self-discipline and self-regulation. *(Administrators of Mali)*

A key challenge in blended learning is reliable technology access. Student feedback highlights the importance of stable internet connectivity, with one student stating, "Sometimes the internet is very weak, and I cannot attend online classes." Insufficient technology or limited internet access hinders student engagement with online components of blended courses. Institutions must ensure all students have access to necessary technology and provide support for those experiencing technical difficulties. Administrators report proactively addressing both instructor and student technical issues as they arise. Successful blended learning implementation hinges on these supportive measures. *(Instructors of Mali)*

The document highlights that the implementation process is streamlined through the formation of dedicated working groups and specialized committees within existing service and administrative units. Each group concentrates on a specific aspect of blended learning, such as staff training, curriculum development, or technological infrastructure. Educational institutions are required to develop and clearly communicate comprehensive guidelines for blended learning. These policies outline strategies and procedures for the design, implementation, management, and assessment of blended learning initiatives. They ensure that all key actors understand their responsibilities and establish a consistent framework for effective and uniform execution.

The findings offer a comprehensive overview of the university's support for blended learning, highlighting key infrastructural elements such as interactive whiteboards, multimedia stations, and high-speed internet access. These tools enrich the learning experience by providing students with access to diverse digital

materials. Two administrators of Burkina Faso emphasize that this support includes "reliable and scalable servers, storage solutions, network capabilities, and tools for developing multimedia content." However, the current infrastructure falls short in accommodating the high demand for simultaneous Internet access from multiple users across different activities. To significantly enhance the learning experience, the university would benefit from implementing an effective, user-friendly Learning Management System (LMS) that supports various content delivery methods and offers functionalities for collaboration, feedback, and assessment.

Institutions secure financial support for advancements in educational technology from a variety of sources beyond their own resources. For example, the Malian Education Authority provides funding for educational initiatives, including e-learning projects, through its Skills Development Fund. Additionally, the Authority allocates resources to the Education Fund to support large-scale educational programs. In collaboration with the MasterCard Foundation, the African Digital Schools Initiative offers financial assistance aimed at implementing digital educational strategies that foster 21st-century skills. *(Administrators of Mali)*
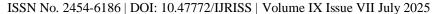
To equip instructors and staff with essential skills and expertise for designing and implementing effective blended learning experiences, comprehensive professional development is crucial. Training programs should encompass proficiency in online learning platforms, core instructional design principles, best practices in online pedagogy, and strategies for integrating technology with traditional teaching methods. Continuous support and ongoing professional development enable educators and staff to stay abreast of the latest advancements in blended learning, thereby enhancing their pedagogical and technological capabilities. When professionals are confident and proficient in utilizing blended learning materials, they can deliver more engaging, dynamic, and interactive educational experiences. This results in increased student engagement, better learning outcomes, and a more cohesive, efficient blended learning environment. *(Instructors of Burkina Faso)*

Instructors from both countries report that infrastructure and resource limitations pose significant challenges to the implementation of blended learning in Mali and Burkina Faso. Limited and unreliable internet connectivity—especially in rural areas—creates a digital divide that hampers equitable access to digital educational opportunities. This connectivity gap compels educators to seek alternative methods for delivering digital instruction. Furthermore, the availability of electronic devices remains a critical concern; many students in both countries lack access to laptops or tablets, which diminishes the reach and effectiveness of blended learning initiatives. Maintaining existing ICT infrastructure is also difficult due to restricted funding, impacting the sustainability and quality of digital learning environments. Additionally, many educational institutions lack the necessary resources to provide adequate training and support for educators, resulting in inefficient implementation and reduced impact of blended learning programs. Addressing these infrastructural and resource constraints is essential to enhance the effectiveness and inclusivity of digital education in these regions.

"We use our phone to access and join online classes. Also, the bundle is very expensive; we cannot be online for a long time, like two hours." (Students and instructors from both countries)

Many students and educators struggle with essential digital skills, which hampers their ability to effectively engage with online learning platforms. Educators often lack the necessary expertise and experience to seamlessly integrate technology into their teaching, facing challenges in adapting to digitally enhance pedagogical methods. This skills gap can result in the inefficient implementation of blended learning initiatives and a decline in student engagement and learning outcomes.

Socio-cultural resistance remains a significant barrier to the adoption of blended learning in higher education across both countries. Many key actors continue to favor traditional teaching methods, perceiving online learning as lacking the personal engagement and accountability inherent in conventional classrooms. Nevertheless, findings from Administrators of Burkina Faso indicate that inadequate systems for monitoring online course delivery raise concerns about the effectiveness of blended learning initiatives. Additionally, there are apprehensions regarding the alignment of digital materials with national educational standards.

For example, the Malian Commission for Universities has developed regulations aimed at maintaining academic quality in online and blended courses. These guidelines encourage collaboration among key actors to address challenges and ensure consistent standards. Moreover, curriculum mapping plays a vital role in defining instructional pathways and assessing learning objectives, thereby reinforcing institutional credibility and providing students with clear expectations. A well-structured curriculum—comprehensive and aligned with relevant standards—serves as the foundation for effective teaching and learning, supported by assessments that accurately measure student progress. *(Administrators from both countries)*

The dynamic nature of learning environments complicates efforts to reliably evaluate student development and deliver targeted support, underscoring the need for adaptable and robust educational frameworks.

DISCUSSION

The study on the adaptation of blended learning in higher education in Mali and Burkina Faso provides a comprehensive qualitative analysis of key actors' perceptions regarding the implementation and impact of blended learning. The research highlights the potential benefits of blended learning, such as enhanced student engagement and academic performance, while also identifying significant challenges, including infrastructure limitations, digital literacy gaps, and institutional support and policies.

Enhanced Student Engagement and Academic Performance

The study found that blended learning significantly impacts student engagement and academic performance. Recent research indicates that blended learning enhances student engagement and academic performance in higher education institutions in Mali and Burkina Faso, with key actors perceiving it as a transformative pedagogical approach. Studies such as Diakité et al. (2022) highlight that students experience increased motivation and active participation due to the flexibility and interactive components of blended learning models, which combine traditional face-to-face instruction with online platforms. Faculty members report improved teaching effectiveness and learner-centered approaches, while institutional administrators recognize the potential for scalable and cost-effective educational delivery.

In the context of West Africa, recent investigations (Traoré & Ouédraogo, 2023) emphasize that the successful implementation of blended learning hinges on infrastructural readiness, digital literacy, and key actor training, which collectively contribute to better academic outcomes. Overall, the perceptions of students, educators, and policymakers suggest that, despite infrastructural challenges, blended learning fosters a more engaging and effective learning environment that can bridge educational gaps in Mali and Burkina Faso (Kone & Yameogo, 2023). These findings underscore the importance of strategic investments and capacity-building initiatives to maximize the benefits of blended learning in the region's higher education landscape.

Challenges in Implementation

Despite the potential benefits, the study identified several challenges in implementing blended learning in Mali and Burkina Faso as perceived by various key actors including educators, students, and administrators. Recent research by Diakité et al. (2022) highlights infrastructural limitations such as unreliable internet connectivity, inadequate technological resources, and limited digital literacy among faculty and students as primary barriers. Additionally, cultural resistance to pedagogical change and the lack of policy frameworks supporting digital transformation further hinder adoption.

key actors also express concerns over the sustainability of blended learning initiatives in resource-constrained environments, as well as issues related to quality assurance and assessment. Overall, overcoming these challenges requires collaborative efforts involving government agencies, higher education institutions, and international partners to foster a conducive environment for innovative teaching and learning modalities (Diakité, M., Traoré, A., & Kone, S., 2022).

Institutional Support and Policies

Understanding of successful institutional strategies and interventions can provide valuable insights into overcoming challenges related to the implementation of blended learning in higher education within Mali and Burkina Faso. For example, institutions such as the University of Ouagadougou in Burkina Faso have demonstrated the positive impact of comprehensive policy frameworks that prioritize infrastructure development and staff training. This institution invested in expanding internet connectivity and digital resources, coupled with targeted capacity-building programs for faculty, leading to increased confidence and effective use of blended learning modalities (Diakité & Coulibaly, 2022 and Kouyaté & Sangaré, 2023). Similarly, in Mali, the implementation of collaborative policy initiatives—such as the Mali Digital Education Initiative—facilitated partnerships between government agencies, universities, and development organizations to develop clear guidelines and allocate resources for blended learning environments (Traoré et al., 2022).

Furthermore, examples from other West African contexts highlight the importance of institutional leadership in fostering a culture of innovation. For instance, the University of Ghana adopted a strategic plan that integrated blended learning into its core mission, supported by dedicated technological infrastructure and ongoing faculty training programs. This approach resulted in improved key actors perceptions, greater engagement, and sustainable integration of digital modalities (Ouédraogo & Kaboré, 2023). These case studies demonstrate that proactive, well-coordinated policy frameworks—addressing infrastructure, capacity building, and institutional collaboration—are essential for overcoming resource limitations and policy ambiguities, ultimately enhancing key actor confidence and participation in blended learning.

LIMITATION

The study recognizes certain limitations, including a small sample size, which restrict the extent to which the findings can be generalized. Future research should consider increasing the sample size and incorporating random sampling techniques to enhance the generalizability and reliability of the results. Adopting a mixed-methods approach, combining qualitative and quantitative data, would provide a comprehensive understanding of the challenges and opportunities associated with blended learning in these contexts. It would be beneficial to conduct in-depth case studies of institutions that have successfully browsed blended learning implementation, offering transferable insights and best practices. Further investigation into the specific socio-cultural factors the adoption blended learning could lead to more targeted and implemented strategies. Button, exploring the long-term impact of blended learning on a student retention and career outcomes would add significant value to the existing literature. Finally, the study could proposed a framework or model for sustainable blended learning tailored to the unique challenges and opportunities in West African higher education.

CONCLUSION

Initially, key actors viewed blended learning as a vital, beneficial approach that, when effectively applied, improves secondary education quality. Both universities' environments supported blended learning, with lecturers and students sharing similar ICT resources, fostering teacher collaboration and innovative pedagogies. Widespread use of blended learning promotes active student engagement and academic success. The study's findings have important implications: they can guide the government, institutions, and educators in recruiting skilled IT technicians to support sustainable blended learning, benefiting teachers, learners, and the community. Additionally, policymakers and key actors can use these insights to raise awareness and better integrate blended learning into school curricula.

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