BLENDED LEARNING FOR INSTRUCTIONAL DELIVERY AMONG PRE-SERVICE TEACHERS IN COLLEGES OF EDUCATION IN LAGOS STATE: CHALLENGES AND THE WAY FORWARD

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Abstract
This study explores the challenges pre-service teachers face in adopting blended learning in Colleges of Education in Lagos State. It examines the impact of these challenges on their engagement and perception of blended learning. The population for this study includes all business education pre-service teachers in the College of Education in Lagos State. Three research questions and hypotheses were postulated and tested at a 0.05 level of significance. The sample size was seventy-three ((73) using a Simple random sampling technique to select pre-service teachers from specialized areas of business education. A structured questionnaire, titled Questionnaire on Blended Learning Adoption by Business Educators in College of Education (QBLABECE). The instrument was validated. A test-retest reliability was carried out within the intervals of two (2) weeks, which yielded a coefficient of 0.82, which was considered very high and dependable. Descriptive statistics was used to analyze the research questions while inferential statistics was used to analyze the hypothesis. The study revealed that significant challenges, including diminished enthusiasm, technical support deficits, and time constraints are part of the overwhelming challenges facing the adoption of blended learning in the College of Education in Lagos State. It was recommended among others that the government should provide technical support to enhance the adoption of blended learning in facilitating teaching and learning and encourage capacity-building training for pre-service teachers.

Keywords*: Blended Learning, Challenges, Colleges of Education, Lagos State, The Way Forward.*

Introduction

The critical role of teacher education in shaping the future of any nation cannot be overemphasized. As the primary source of qualified educators, teacher-training institutions, such as the Federal College of Education (Technical) Akoka, bear the responsibility of equipping future teachers with the skills, knowledge, and pedagogical approaches necessary for effective 21st-century education. However, the persistence of traditional teaching methods in these institutions has become a growing concern in the face of rapidly evolving educational landscapes. Traditional teaching methods, characterized by lecturer-centered approaches, rote learning, and limited student engagement, have long been criticized for their inadequacies in preparing teachers for the complexities of modern classrooms. According to recent studies, such methods often fail to develop critical thinking, problem-solving skills, and technological competence among pre-service teachers (Lai & Hwang, 2016). Furthermore, these approaches do not align with the learning preferences of today's digital have-native students, potentially leading to disengagement and reduced learning outcomes (Roach, 2014). Resistance to transitioning from traditional teaching methods to technology-integrated approaches remains a significant barrier. For example, many lecturers in Nigerian tertiary institutions are hesitant to adopt new technologies in their teaching practices due to a lack of training or fear of technology (Hew & Lo, 2018). Additionally, limited resources for acquiring and maintaining the necessary hardware and software have further hindered the widespread adoption of blended learning (Sohrabi & Iraj, 2016).

Blended learning, which combines face-to-face instruction with online components, is increasingly recognized for its potential to enhance student engagement, foster active learning, and develop essential digital literacy skills. Recent studies have highlighted its positive impact on student motivation and achievement. For instance, a 2023 study confirmed that blended learning significantly boosts student performance and engagement across diverse educational settings (Miller, 2021). However, the adoption of this model in Nigerian teacher education institutions has been slow, largely due to challenges such as inadequate infrastructure and resistance to change (Miller, 2021). These barriers emphasize the need for more targeted efforts to integrate blended learning into educational systems effectively.

The rapid growth of technology in the 21st century has greatly influenced education, with blended learning emerging as a powerful method to improve educational outcomes. This approach, which merges traditional in-person teaching with online elements, is gaining worldwide popularity for its ability to provide flexibility, create personalized learning experiences, and enhance access to educational resources. It supports diverse learning styles and enables students to engage with content at their own pace, promoting learning that is more effective and increases student success. In Nigeria, the adoption of blended learning has been gradual but steady, particularly in higher education institutions. The Federal Government, through the National Commission for Colleges of Education (NCCE), has encouraged the integration of technology in education to improve the quality and accessibility of higher education. The Federal College of Education (Technical) Akoka, as a key institution in teacher education, has been part of this national drive towards technological integration in education.

Despite the potential benefits, the implementation of blended learning in Nigerian Colleges of Education, including the Federal College of Education (Technical) Akoka, has faced numerous challenges. These include: Infrastructure limitations: Inconsistent power supply and inadequate internet connectivity; Digital literacy gaps: Both among students and faculty members; Resistance to change: From traditional teaching methods to technology-integrated approaches; Limited resources: For acquiring and maintaining necessary hardware and software; and Lack of institutional policies: To guide the effective implementation of blended learning. Several factors contribute to the reluctance to adopt blended learning approaches. Stereotypes and misconceptions about technology-enhanced learning play a significant role. Adedoja and Abimbade (2016) found that many educators in Nigerian tertiary institutions perceive blended learning as a threat to traditional teaching roles or as an entirely online approach, which diminishes face-to-face interactions. These misconceptions often lead to resistance among faculty members.

Infrastructure and facilities pose another substantial challenge. Eze et al. (2018) highlight the inadequate technological infrastructure in many Nigerian educational institutions, including unreliable internet connectivity, insufficient computer laboratories, and outdated hardware and software. These limitations can severely impede the effective implementation of blended learning strategies. The integration of blended learning in Nigerian institutions, including the Federal College of Education (Technical) Akoka, has faced numerous challenges. Recent studies continue to identify significant barriers such as inadequate infrastructure, insufficient technical support, and resistance to innovation. For instance, Oluwajana et al. (2021) noted that despite the widespread availability of smartphones and other digital devices, many Nigerian students and faculty members lack the digital literacy skills needed to optimize these tools for learning. Similarly, Kamba et al. (2020) emphasized that the absence of clear institutional policies and inconsistent internet access further hinder the effective adoption of blended learning in higher education.

These challenges mirror those observed in other developing nations. For example, a study in Kenya by Amutabi et al. (2022) highlighted similar issues, including insufficient training for educators and students on e-learning platforms, along with the financial constraints associated with acquiring and maintaining the necessary technology. Such findings underscore the need for a holistic approach that addresses both technological and human resource development to ensure the success of blended learning in Nigerian institutions. Furthermore, Okocha et al. (2017) emphasized the impact of institutional factors on the successful implementation of blended learning. Their study revealed that the absence of clear institutional policies and inadequate technical support significantly hinder the adoption of blended learning approaches in Nigerian higher education institutions. Likewise, the lack of institutional policies to guide the effective implementation of blended learning has been identified as a key challenge. Adedoja and Ojuade (2016) emphasized the need for clear institutional strategies and support systems to facilitate the successful integration of technology in higher education.

The unique context of the Federal College of Education (Technical) Akoka presents an opportunity to delve deeper into these challenges. As an institution focused on teacher education, its successful adoption of

blended learning could have far-reaching implications for the broader education sector in Nigeria. However, little research has been conducted specifically on the challenges faced by students in this institution in adopting blended learning. Furthermore, the interest and motivation of both lecturers and pre-service teachers in adopting blended learning approaches are crucial factors. Aboderin (2015) notes that while many students show enthusiasm for technology-enhanced learning, some lecturers display reluctance due to perceived increased workload or fear of technology. Conversely, some pre-service teachers may be hesitant to engage with blended learning due to limited exposure to technology or concerns about the quality of online components.

While blended learning offers numerous potential benefits, its successful implementation requires a thorough understanding of the challenges faced by students and institutions. This study focuses specifically on the Federal College of Education (Technical) Akoka, aiming to identify the unique challenges in this context and develop targeted recommendations. By examining factors such as diminished enthusiasm, technical support deficits, absence of college-driven guidance, time constraints, and skill deficiencies, this research seeks to contribute to the body of knowledge on blended learning adoption in Nigerian higher education institutions. Bozkurt (2019) highlights the successful implementation of blended learning requires thoughtful consideration of institutional context, the needs of learners, and the overarching pedagogical goals. This approach is especially important in the context of Nigerian higher education, where challenges such as limited infrastructure and varying levels of digital literacy can hinder the effective adoption of blended learning methods. By addressing these specific challenges at the Federal College of Education (Technical) Akoka, this study seeks to contribute valuable insights to the broader discourse on blended learning in Nigeria. The ultimate goal is to enhance both the quality and accessibility of education in the country, ensuring that the benefits of blended learning are fully realized. In light of these challenges, there is a pressing need to investigate the specific barriers to blended learning adoption in the context of the Federal College of Education (Technical) Akoka. Understanding these challenges is crucial for developing targeted strategies to overcome them, thereby enhancing the quality of teacher education and preparing future educators for the demands of 21st-century classrooms.

Statement of the Problem

The integration of technology in education, particularly through blended learning approaches, has become increasingly important in enhancing the quality and accessibility of higher education. However, the adoption of blended learning in Nigerian institutions, including the Federal College of Education (Technical) Akoka, has been fraught with challenges that hinder its effective implementation and potential benefits. Despite the push for technological integration in education by the Nigerian government and educational bodies, there is a significant gap between the intended outcomes and the actual implementation of blended learning at the institutional level. The Federal College of Education (Technical) Akoka, as a key institution in teacher education, faces unique challenges in adopting blended learning that needs to be addressed critically. Preliminary observations and existing literature suggest that pre-service teachers at the college experience diminished enthusiasm towards blended learning, face technical support deficits, and struggle with the absence of clear college-driven guidance. Additionally, time constraints and skill deficiencies among both students and faculty members further complicate the adoption process. These challenges not only impede the effective implementation of blended learning but also potentially compromise the quality of education and the development of essential 21st-century skills among future teachers. The lack of a comprehensive understanding of these specific challenges in the context of the Federal College of Education (Technical) Akoka hinders the development of targeted solutions and policies to improve blended learning adoption. However, little or no empirical research specifically addresses the challenges of blended learning adoption in teacher education institutions in Nigeria. This gap in knowledge limits the ability of policymakers and institutional leaders to make informed decisions about resource allocation, infrastructure development, and curriculum design to support effective blended learning implementation. Therefore, this study aims to address this problem by conducting a thorough investigation into the challenges faced by students in adopting blended learning at the Federal College of Education (Technical) Akoka. By identifying and analyzing these challenges, the research seeks to provide evidence-based recommendations that can inform policy, practice, and future research in the field of blended learning adoption in Nigerian higher education institutions, particularly those focused on teacher education.

Purpose of the Study

The purpose of this study is to examine the current state of blended learning in Colleges of Education in Lagos State. Specifically, the study seeks to examine:

1. the primary challenges pre-service teachers face in adopting blended learning at the Federal College of Education (Technical) Akoka.
2. the impact of diminished enthusiasm, technical support deficits, absence of college-driven guidance, time constraints, and skill deficiencies on pre-service teachers' experiences with blended learning.
3. evidence-based recommendations for improving the implementation of blended learning at the institution.

Research Questions

The following research questions guided the study.

Research Question 1: What are the challenges pre-service teachers face when using blended learning for instructional delivery at the Federal College of Education (Technical) Akoka?

Research Question 2: How do the challenges (diminished enthusiasm, technical support deficits, absence of college-driven guidance, time constraints, and skill deficiencies) influence pre-service teachers' engagement with and perception of blended learning?

Research Question 3: What are the strategies that can address these challenges and enhance the effectiveness of blended learning at the Federal College of Education (Technical) Akoka?

Research Hypotheses

The following null research hypotheses guided the study.

Research Hypothesis 1: There is no significant relationship between the challenges and pre-service teachers' overall satisfaction with blended learning.

Research Hypothesis 2: There is no significant difference in the perception of blended learning challenges among pre-service teachers from different academic programs or levels of study.

Research Hypothesis 3: The absence of college-driven guidance does not significantly affect pre-service teachers' adoption of blended learning.

Methods

Research Design

This study used a quantitative research methodology to actualize the goal of the study. The goal of a quantitative research methodology is to analyze a particular phenomenon at a specific moment. For the purpose of this study, a quantitative research methodology aims to evaluate the current state of blended learning for instructional delivery among pre-service teachers at the Federal College of Education (Technical) Akoka (Sessier & Imrey, 2015).

Population and Sampling Procedure

The population for this study includes all the pre-service teachers in Business Education in Colleges of Education in Lagos State. The sample size was 73 pre-service teachers, using a simple random sampling technique from various academic programmes at School of Business Education in the Federal College of Education (Technical) Akoka. The sample includes students from departments of Accounting Education, Entrepreneurial Education, Marketing, and Office Technology and Management (OTM), ensuring diversity in terms of academic background. The sample size was determined to provide a sufficient representation of the population, allowing for meaningful analysis of the challenges faced in using blended learning for instructional delivery.

Data Collection Instrument

A structured questionnaire, titled: "Blended Learning for Instructional Delivery among Pre-Service Teachers in Colleges of Education in Lagos State: Challenges and the Way Forward" was applied for data collection. The questionnaire was a 5-point Likert Scale. Cluster 1 identifies the challenges facing pre-service teachers in adopting blended learning at Federal College of Education (Technical) Akoka, with six items. Cluster 2 contains questions on how the identified challenges can affect pre-service teachers, with five items. Cluster 3

are the strategies that can address challenges and enhance effectiveness of blended learning, with six items.

Validation and Reliability of Instrument

To ensure validity, a structured questionnaire, consisting of 20 items, was reviewed and validated by two experts from Department of Business Education, Faculty of Education, University of Lagos. Their feedback has helped to refine the instrument for clarity, relevance, and accuracy. To ensure reliability, a pilot test was conducted with a small group of pre-service teachers who were not part of the study. The results were analyzed using Cronbach's Alpha, yielding the reliability coefficient of 0.82. Ensuring that the instrument produced consistent and reliable responses.

Data Collection Procedure

Data was collected through administration of questionnaire, which was distributed to the pre-service teachers after taking permission from the head of Department. The instrument was collected the same date and used for data analysis.

Data Analysis

Descriptive statistics of Mean and Standard Deviation was used to answer research question one and a Pearson's correlation was used to answer research question two. Percentage was used to answer research question three. Inferential statistics such as linear regression was used to test hypothesis one, one-way analysis of variance was used to test hypothesis two, and chi-square was used to test hypothesis three.

Results

Research Question 1: What are the challenges pre-service teachers face when using blended learning for instructional delivery at the Federal College of Education (Technical) Akoka?

Table 1: Mean and Standard Deviation on the Challenges Pre-Service Teachers Face when Using Blended Learning for Instructional Delivery at the Federal College of Education (Technical) Akoka.

SN	Items	*M*	*SD*
1	I feel less motivated to participate in blended learning activities compared to traditional face-to-face classes.	2.79	1.1
2	The online components of blended learning are less engaging than in-person sessions.	2.68	1.1
3	I find it challenging to maintain interest in course materials delivered through blended learning methods.	2.15	1.44
4	Blended learning has decreased my overall enthusiasm for my studies.	2.02	1.41
5	Technical problems often disrupt my learning experience in blended courses.	2.13	1.53
6	Balancing online activities with face-to-face classes is challenging.	1.89	1.28

Note. *M* = Mean, *SD* = Standard Deviation.

The findings indicate that pre-service teachers face several challenges when using blended learning for instructional delivery at the Federal College of Education (Technical) Akoka. Among the identified challenges, the most significant was a lack of motivation to participate in blended learning activities compared to traditional face-to-face classes, with a mean score of 2.79 (SD = 1.10). Similarly, the perception that online components are less engaging than in-person sessions scored a mean of 2.68 (SD = 1.10). Other notable challenges included difficulty maintaining interest in course materials delivered through blended learning (M = 2.15, SD = 1.44) and frequent technical disruptions (M = 2.13, SD = 1.53). Conversely, balancing online and face-to-face activities was reported as less challenging, with the lowest mean score of 1.89 (SD = 1.28). These findings suggest that motivational and engagement-related issues are the primary barriers to successful blended learning adoption.

Research Question 2: How do the challenges (diminished enthusiasm, technical support deficits, absence of college-driven guidance, time constraints, and skill deficiencies) influence pre-service teachers' engagement with and perception of blended learning?

Table 2: Pearson's Correlation on the Challenges that Influences Pre-Service Teachers' Engagement with and Perception of Blended Learning.

Challenge	Engagement	Perception	p-value	Interpretation
Diminished enthusiasm	0.013	0.197	0.047	Weak positive correlation
Technical support deficits	0.272	0.129	0.010	Moderate positive correlation (Engagement)
Skill deficiencies	0.074	0.275	0.009	Weak positive correlation (Perception)
Absence of guidance	0.073	0.124	0.149	No significant correlation
Time constraints	0.349	0.281	0.001, 0.008	Moderate positive correlation (both)

Note. p = Probability.

The analysis reveals varying degrees of Correlation between the challenges and pre-service teachers' engagement with and perception of blended learning. Time constraints showed the strongest correlation, with a moderate positive relationship to both engagement ($r = 0.349$) and perception ($r = 0.281$), both statistically significant ($p = 0.001$ and $p = 0.008$, respectively). Technical support deficits also exhibited a moderate positive correlation with engagement ($r = 0.272$, $p = 0.010$) but not with perception. Diminished enthusiasm and skill deficiencies displayed weak positive correlations with perception ($r = 0.197$, $p = 0.047$; $r = 0.275$, $p = 0.009$, respectively) and no significant relationships with engagement. The absence of guidance did not show a significant correlation with either engagement or perception ($p > 0.05$). These results highlight that time constraints and technical support issues are the most influential challenges affecting blended learning engagement and perception.

Research Question 3: What are the strategies that can address these challenges and enhance the effectiveness of blended learning at the Federal College of Education (Technical) Akoka?

Table 3: Percentage on the Strategies that can be Implemented to Address these Challenges and Enhance the Effectiveness of Blended Learning at the Federal College of Education (Technical) Akoka.

Strategies	Frequency	Percentage (%)
Increase technical support	45	61.6
Provide clear guidelines	40	54.8
Offer digital skills training	38	52.1
Reduce workload for blended courses	35	47.9
Enhance instructor readiness	30	41.1

The strategies suggested to address the challenges of blended learning at the Federal College of Education (Technical) Akoka primarily focus on improving technical support and guidance. The most commonly proposed strategy was to increase technical support, endorsed by 61.6% of respondents. Providing clear guidelines on how to navigate blended learning followed closely, with 54.8% in favor. Offering digital skills training to both students and instructors was also seen as essential, with 52.1% support. Other strategies included reducing the workload for blended courses (47.9%) and enhancing instructor readiness to deliver content effectively in a blended format (41.1%). These results suggest that enhancing technical infrastructure and providing better support for both students and instructors are key to improving the effectiveness of blended learning at the institution.

Hypotheses Testing

Research Hypothesis 1: There is no significant relationship between the challenges and pre-service teachers' overall satisfaction with blended learning.

Table 4: Linear Regression Analysis on the Relationship between Challenges and Overall Satisfaction with Blended Learning.

Predictor Variable	Beta (β)	t	p-value	r^2	F
Diminished enthusiasm	-0.40	-3.89	0.001	0.32	12.35**
Technical support deficits	-0.35	-3.45	0.002		
Absence of guidance	-0.30	-3.12	0.003		
Time constraints	-0.28	-2.90	0.005		
Skill deficiencies	-0.25	-2.75	0.008		

The regression analysis for Hypothesis 1 demonstrates a significant relationship between the identified challenges and pre-service teachers' overall satisfaction with blended learning. Specifically, the analysis revealed that diminished enthusiasm (β = -0.40, p = 0.001) and technical support deficits (β = -0.35, p = 0.002) have a moderate-to-strong negative impact on satisfaction. The model accounted for 32% of the variance in satisfaction (R^2 = 0.32, F = 12.35). Additionally, challenges related to time constraints (β = -0.28, p = 0.005) and skill deficiencies (β = -0.25, p = 0.008) also showed significant negative correlations with satisfaction, albeit with weaker effects. The absence of college-driven guidance did not contribute significantly to satisfaction, indicating that other factors might be more influential. Overall, the findings suggest that addressing challenges related to motivation, technical support, and time management could lead to significant improvements in pre-service teachers' satisfaction with blended learning.

Research Hypothesis 2: There is no significant difference in the perception of blended learning challenges among pre-service teachers from different academic programs or levels of study.

Table 5: One-Way ANOVA for Differences in Perception of Blended Learning Challenges across Academic Programs

Department	N	*M*	*SD*
Accounting Education	19	2.22	0.83
Entrepreneurial Education	22	2.51	0.77
Marketing	21	2.53	0.74
ITEM	11	2.61	0.69

Source	SS	df	MS	F	p-value
Between Groups	2.48	2	1.24	3.45	0.037
Within Groups	25.65	70	0.37		
Total	28.13	72			

Note. N = Population, *M* = Mean, *SD* = Standard Deviation, SS = Sum of Square, df = Degree of Freedom, MS = Mean Square, p = Probability.

The analysis for Hypothesis 2 reveals a significant difference in the perception of blended learning challenges among pre-service teachers from different academic programs. The one-way ANOVA results indicate that there is a statistically significant difference between the groups, with an F-value of 3.45 and a p-value of 0.037, which is less than the 0.05 significance level. The means for the different programs were as follows: Accounting Education (M = 2.22, SD = 0.83), Entrepreneurial Education (M = 2.51, SD = 0.77), Marketing (M = 2.53, SD = 0.74), and OTM (M = 2.61, SD = 0.69). Post hoc comparisons (not shown) would provide more specific details on which pairs of academic programs differ significantly. These results suggest that the

perception of blended learning challenges varies across academic programs, emphasizing the need for tailored approaches to address these challenges based on the program of study.

Research Hypothesis 3: The absence of college-driven guidance does not significantly affect pre-service teachers' adoption of blended learning.

Table 6: Chi-Square Test for the Impact of College-Driven Guidance on the Adoption of Blended Learning

Guidance Provision	Adoption	No Adoption	Total
Yes	30	10	40
No	15	18	33
Total	45	28	73

Statistics	Value
Chi-Square(X^2)	6.89
Df	1
p-value	0.009

Note. df = Degree of Freedom, p = Probability.

The results of the Chi-Square test for Hypothesis 3 indicate a significant association between the provision of college-driven guidance and pre-service teachers' adoption of blended learning. The Chi-Square statistic is 6.89 with 1 degree of freedom, and the p-value is 0.009, which is less than the 0.05 significance level. This suggests that the absence of college-driven guidance does indeed significantly affect pre-service teachers' adoption of blended learning. Specifically, those who received guidance were more likely to adopt blended learning (30 with adoption vs. 10 without adoption) compared to those who did not receive guidance (15 with adoption vs. 18 without adoption). This finding highlights the importance of institutional support and guidance in facilitating the adoption of blended learning among pre-service teachers.

Discussion

The results of this study provide important insights into the difficulties and possibilities related to the implementation of blended learning at the Federal College of Education (Technical) Akoka. The findings suggest that pre-service teachers encounter various significant challenges that hinder their engagement and satisfaction with blended learning environments. These obstacles include issues such as limited access to digital tools, lack of technical proficiency, and insufficient support for both students and instructors. Nonetheless, the study also points to potential opportunities for improving the learning experience by addressing these challenges and enhancing the blended learning framework. One of the most prominent challenges identified is a lack of motivation and engagement with online learning activities. This finding aligns with previous research (Chen et al., 2021; Kim & Lee, 2023) that has highlighted the importance of creating engaging and interactive online learning experiences. To address this challenge, it is crucial to incorporate diverse instructional strategies, such as gamification, interactive simulations, and peer-to-peer learning, to enhance student motivation and active participation.

Furthermore, technical issues and limited technical support emerged as significant barriers to effective blended learning. These findings are consistent with previous studies (Ali et al., 2020; Wang & Woo, 2022) that have emphasized the need for robust technical infrastructure and adequate support services. To mitigate these challenges, the institution should invest in reliable technology, provide regular training for both students and faculty on the use of educational technologies, and establish dedicated technical support teams to address any issues promptly. Another key challenge identified is the lack of clear guidance and support from the institution. This finding underscores the importance of providing clear guidelines, resources, and ongoing support to both students and faculty to facilitate a smooth transition to blended learning. Institutions can address this challenge by developing comprehensive blended learning policies, providing training on instructional design and delivery, and offering ongoing professional development opportunities for faculty.

Conclusion

In conclusion, the findings of this study indicate that a well-rounded approach is essential to overcome or surmount the challenges of implementing blended learning at the Federal College of Education (Technical) Akoka. Key steps include enhancing student motivation, strengthening technical infrastructure, offering better support, and providing clear guidance for both students and staff. By focusing on these areas, the institution can establish a more effective and engaging blended learning environment for pre-service teachers.

Recommendations

The following recommendations were made based on the findings of the study.

1. To effectively support blended learning, the institution (Federal College of Education (Technical) Akoka, should endeavor to enhance infrastructure by investing in reliable internet connectivity, modern computer laboratories, and user-friendly Learning Management Systems (LMS). Furthermore, efforts should also made to ensure that all learning materials are accessible to students with economic challenges, with alternative pathways provided for those with limited access to technology.
2. Developing the skills of lecturers and students is crucial. Thus, regular training programs should be provided to lecturers on blended learning pedagogies, supported by mentorship and ongoing technical assistance. On the other hand, for students, orientation programs and the integration of digital literacy skills should be incorporated into the curriculum to help them adapt to the blended learning environment.
3. There should be deliberate policies and efforts by the institution to boost engagement and learning outcomes, institutions should adopt innovative strategies such as gamification, problem-based learning, and collaborative activities. Collecting and acting on student feedback, will further refine the learning experience and foster a more interactive environment.
4. Clear policies and guidelines are essential for successful implementation. The Institution, Federal College of Education (Technical) Akoka, should establish comprehensive frameworks for blended learning, covering course design, delivery, and workload adjustments that align with this mode of education.
5. Collaboration and resource development should be prioritized. Partnerships with other educational institutions and technology companies can facilitate knowledge exchange and access to advanced tools. High quality, interactive online materials should be developed, and the use of Open Educational Resources (OERs) encouraged to broaden content accessibility and availability.

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