

Challenges And Prospects of Sustaining Blended Learning for Effective Curriculum Delivery in Colleges of Education in Nigeria

DR. ABOAJAH CHISOMAGA¹, ONUIGBO KENNETH CHIBUEZE², ONUOHA OJU JOY CHINAZMIHENIILE³

^{1,3}*Department of Curriculum Studies/Educational technology, Abia State College of Education (Technical), Arochukwu, Abia State, Nigeria.*

²*Department of Physics, School of Science Education, Abia State College of Education (Technical), Arochukwu, Abia State, Nigeria.*

Abstract- Blended learning has become an important strategy for improving curriculum delivery in teacher education, especially in Colleges of Education where pre-service teachers are expected to acquire both pedagogical knowledge and digital competence. In Nigeria, the need for sustainable blended learning became more obvious after the COVID-19 disruption, which exposed the weaknesses of fully face-to-face teaching while also revealing the possibilities of technology-supported instruction. This study examined the challenges and prospects of sustaining blended learning for effective curriculum delivery in Colleges of Education in Nigeria. The study was guided by four research questions and two null hypotheses. A descriptive survey research design was adopted. The population comprised lecturers and students in selected federal, state, and private Colleges of Education across Nigeria. A sample of 360 respondents, made up of 120 lecturers and 240 students, was selected through stratified random sampling. Data were collected using a structured questionnaire titled Blended Learning Sustainability and Curriculum Delivery Questionnaire with a reliability coefficient of 0.87. Mean, standard deviation, ranking, and independent-samples t-test were used for analysis. Findings showed that the major challenges to sustaining blended learning include poor internet connectivity, high cost of data and devices, irregular electricity supply, limited institutional learning management systems, inadequate lecturer training, low student digital readiness, weak technical support, and poor funding. However, the study also found strong prospects, including wider access to learning materials, improved learner autonomy, flexible curriculum delivery, better use of multimedia resources, stronger emergency preparedness, and improved digital competence among future teachers. The study concluded that blended learning can strengthen curriculum delivery in Colleges of Education if it is properly funded, institutionally supported, and pedagogically guided. It recommended

improved digital infrastructure, regular staff training, subsidized data access, curriculum redesign, policy enforcement, and monitoring mechanisms for sustainable implementation.

Keywords: *Blended Learning, Curriculum Delivery, Colleges of Education, Nigeria, Teacher Education, Digital Learning, Instructional Technology.*

I. INTRODUCTION

Education in the twenty-first century is increasingly shaped by digital technology, flexible learning pathways, and the need to prepare learners for a knowledge-based society. In teacher education, this demand is even more urgent because Colleges of Education are responsible for preparing teachers who will later teach children and adolescents at the basic education level. In Nigeria, Colleges of Education occupy a strategic position because they award the Nigeria Certificate in Education, which remains a major qualification for basic school teaching.

Blended learning refers to an instructional approach that combines face-to-face classroom interaction with online or technology-supported learning activities. It does not mean replacing the lecturer or abandoning physical classrooms. Rather, it allows teaching and learning to continue through a balanced combination of direct instruction, digital content, online discussion, electronic assessment, recorded lectures, and independent learning. The Federal Ministry of Education's National Digital Learning Policy identifies the blended e-learning model as the preferred model for schools, community centres and

institutions, showing that blended learning is no longer a temporary emergency response but a policy direction for digital education in Nigeria. The need to sustain blended learning in Colleges of Education is closely connected to curriculum delivery. Curriculum delivery involves the process through which planned educational content, learning experiences, teaching methods, assessment procedures, and expected outcomes are implemented in real classroom situations. The National Commission for Colleges of Education minimum standards emphasize the preparation of teachers with the knowledge and skills required to teach effectively at different levels of basic education, and the standards also include curriculum implementation guidelines for institutions and educators.

However, sustaining blended learning in Nigeria is not without difficulty. Many Colleges of Education operate in environments affected by inadequate electricity supply, limited digital devices, poor internet access, insufficient funding, weak institutional policy, and low digital competence among some lecturers and students. Recent studies on blended learning in Nigerian Colleges of Education have also identified problems such as technical support deficits, lack of college-driven guidance, time constraints, and skill deficiencies among pre-service teachers.

This study therefore investigates the challenges and prospects of sustaining blended learning for effective curriculum delivery in Colleges of Education in Nigeria.

II. STATEMENT OF THE PROBLEM

Although blended learning has gained attention in Nigeria, its sustainability in Colleges of Education remains uncertain. Many institutions adopted online platforms during and after the COVID-19 period, but in several cases, the adoption was reactive rather than systematically planned. Some lecturers use WhatsApp, Telegram, Google Classroom, Zoom, or institutional portals, but the level of integration into curriculum delivery is often inconsistent. The major problem is that many Colleges of Education still depend heavily on traditional face-to-face teaching, while digital learning is treated as optional or

supplementary. This creates gaps in curriculum coverage, especially when strikes, insecurity, public health emergencies, transportation difficulties, or institutional disruptions affect physical classes. Where blended learning is attempted, students may struggle with data costs, lack of smartphones or laptops, poor network coverage, limited electricity, and weak digital literacy. Lecturers may also lack training in instructional design, online assessment, content creation, and learning management systems.

The problem, therefore, is not whether blended learning is useful, but whether Nigerian Colleges of Education have the infrastructure, policy support, funding, technical capacity, and pedagogical readiness to sustain it for effective curriculum delivery.

Purpose of the Study

The main purpose of this study is to examine the challenges and prospects of sustaining blended learning for effective curriculum delivery in Colleges of Education in Nigeria.

Specifically, the study seeks to:

- Identify the major challenges affecting the sustainability of blended learning in Colleges of Education in Nigeria.
- Examine the prospects of blended learning for effective curriculum delivery.
- Determine the extent to which lecturers and students are prepared for sustained blended learning.
- Find out strategies that can improve the sustainability of blended learning in Colleges of Education.

RESEARCH QUESTIONS

The study is guided by the following research questions:

1. What are the major challenges affecting the sustainability of blended learning in Colleges of Education in Nigeria?
2. What are the prospects of blended learning for effective curriculum delivery in Colleges of Education?
3. To what extent are lecturers and students prepared for sustained blended learning?

4. What strategies can enhance the sustainability of blended learning for curriculum delivery?

RESEARCH HYPOTHESES

The following null hypotheses were formulated and tested at 0.05 level of significance:

H1: There is no significant difference between the mean responses of lecturers and students on the challenges affecting the sustainability of blended learning in Colleges of Education in Nigeria.

H2: There is no significant difference between the mean responses of lecturers and students on the prospects of blended learning for effective curriculum delivery in Colleges of Education in Nigeria.

III. LITERATURE REVIEW

Concept of Blended Learning

Blended learning is an instructional model that combines physical classroom teaching with digital or online learning experiences. It allows learners to benefit from direct interaction with lecturers while also accessing digital resources outside the classroom. In Colleges of Education, blended learning may involve face-to-face lectures, online assignments, recorded lessons, e-library use, virtual discussion forums, computer-based tests, and collaborative learning through digital platforms.

The National Digital Learning Policy supports this direction by identifying blended e-learning as a preferred model for Nigerian educational institutions. This policy position is important because it gives legitimacy to the use of blended learning beyond emergency remote teaching.

Curriculum Delivery in Colleges of Education

Curriculum delivery refers to the actual implementation of the planned curriculum through teaching, learning, assessment, practical activities, and feedback. In Colleges of Education, curriculum delivery must prepare pre-service teachers for classroom practice, subject mastery, pedagogy, teaching practice, educational psychology, general studies, and digital competence.

The NCCE minimum standards stress that teacher education should prepare teachers with the

knowledge and skills needed for effective teaching at different levels of basic education. This means that curriculum delivery should not only cover content but also develop professional competence. Blended learning can support this by allowing lecturers to combine theory, practice, digital resources, peer interaction, and reflective learning.

Challenges of Sustaining Blended Learning in Nigeria

One major challenge is infrastructure. Blended learning depends on electricity, internet connectivity, functional devices, institutional platforms, and technical support. In many Nigerian Colleges of Education, these resources are either inadequate or unevenly distributed. Even where students have mobile phones, many do not have laptops, stable data subscriptions, or quiet learning spaces.

Recent Nigerian studies confirm these concerns. Ishola and Ogunrinbokun's 2025 study on Colleges of Education in Lagos State identified challenges such as diminished enthusiasm, technical support deficits, absence of college-driven guidance, time constraints, and skill deficiencies among pre-service teachers. Ogunjimi's 2025 study on pre-service teachers in Ilorin also examined both benefits and challenges of blended learning, showing that the issue remains relevant in Nigerian teacher education.

Prospects of Blended Learning for Curriculum Delivery

Despite these challenges, blended learning has strong prospects. First, it can improve access to instructional materials. Students can revisit lecture notes, recorded explanations, slides, videos, and online readings after class. This is helpful for slow learners and students who miss classes due to illness, distance, work, or family responsibilities.

Second, blended learning can promote learner autonomy. Students are encouraged to take responsibility for their learning instead of depending only on classroom lectures. Third, it can improve digital literacy among pre-service teachers. Since these students will eventually teach in basic schools, their exposure to blended learning can influence how they use technology in their future classrooms.

Fourth, blended learning can help institutions manage disruptions. Nigeria’s education system has experienced interruptions caused by strikes, insecurity, pandemics, floods, and transportation difficulties. A strong blended learning system can reduce total academic shutdown when physical meetings become difficult.

Theoretical Framework

This study is anchored on the Community of Inquiry Theory and Constructivist Learning Theory. The Community of Inquiry Theory explains learning as a process that involves three forms of presence: teaching presence, social presence, and cognitive presence. In blended learning, teaching presence is seen in how lecturers design and guide learning activities. Social presence appears through interaction among students and between students and lecturers. Cognitive presence is reflected in critical thinking, problem-solving, and knowledge construction.

Constructivist Learning Theory supports the idea that learners actively construct knowledge through experience, interaction, reflection, and participation. Blended learning fits this theory because it allows students to learn through classroom discussion, online engagement, independent exploration, collaborative tasks, and digital resources.

IV. METHODOLOGY

Research Design

The study adopted a descriptive survey research design. This design was considered appropriate because the study sought to collect opinions from lecturers and students on the challenges and prospects of sustaining blended learning in Colleges of Education.

Area of the Study

The study covered selected Colleges of Education in Nigeria, representing federal, state, and private institutions across different geopolitical zones.

Population of the Study

The population comprised lecturers and students in Colleges of Education in Nigeria.

Sample and Sampling Technique

A sample of 360 respondents was used. This consisted of 120 lecturers and 240 students. Stratified

random sampling was used to ensure representation from federal, state and private Colleges of Education.
Instrument for Data Collection

Data were collected using a structured questionnaire titled Blended Learning Sustainability and Curriculum Delivery Questionnaire.

The questionnaire had four sections:

SECTION	FOCUS
A	Demographic information
B	Challenges of blended learning
C	Prospects of blended learning
D	Strategies for sustainability

The instrument used a four-point rating scale:

SCALE	RESPONSE
4	Strongly Agree
3	Agree
2	Disagree
1	Strongly Disagree

Validity of the Instrument

The instrument was validated by three experts in curriculum studies, educational technology, and measurement and evaluation.

Reliability of the Instrument

A pilot test was conducted using 30 respondents outside the main sample. Cronbach Alpha was used to determine reliability, and a coefficient of 0.87 was obtained.

Method of Data Analysis

Mean and standard deviation were used to answer the research questions. A mean score of 2.50 and above was accepted, while a mean score below 2.50 was rejected. Independent-samples t-test was used to test the hypotheses at 0.05 level of significance.

V. RESULTS

Table 1: Demographic Distribution of Respondents

Category	Frequency	Percentage
Lecturers	120	33.3%
Students	240	66.7%

Male	176	48.9%
Female	184	51.1%
Federal Colleges	150	41.7%
State Colleges	130	36.1%
Private Colleges	80	22.2%
Total	360	100%

Research Question 1: What are the major challenges affecting the sustainability of blended learning?

Table 2: Mean Responses on Challenges of Sustaining Blended Learning

S/N	Challenge	Mean	SD	Decision
1	Poor internet connectivity	3.62	0.58	Accepted
2	High cost of data subscription	3.55	0.63	Accepted
3	Irregular electricity supply	3.49	0.67	Accepted
4	Inadequate digital devices among students	3.41	0.71	Accepted
5	Limited lecturer training in online pedagogy	3.36	0.74	Accepted
6	Weak institutional learning management system	3.31	0.69	Accepted
7	Poor technical support	3.28	0.76	Accepted
8	Low student digital literacy	3.12	0.81	Accepted
9	Resistance to change among some lecturers and students	2.94	0.84	Accepted
10	Inadequate funding	3.58	0.61	Accepted

Grand Mean = 3.37

The result shows that respondents agreed that all the listed factors are major challenges affecting the sustainability of blended learning. The highest-ranked challenge was poor internet connectivity, followed by inadequate funding and high cost of data subscription.

Figure 1: Major Challenges of Sustaining Blended Learning

Challenge	Mean Score
Poor internet connectivity	3.62
Inadequate funding	3.58
High cost of data	3.55
Irregular electricity	3.49
Lack of devices	3.41
Lecturer training gap	3.36
Weak LMS	3.31
Poor technical support	3.28
Low digital literacy	3.12
Resistance to change	2.94

Research Question 2: What are the prospects of blended learning for effective curriculum delivery?

Table 3: Mean Responses on Prospects of Blended Learning

S/N	Prospect	Mean	SD	Decision
1	Improves access to learning materials	3.66	0.54	Accepted
2	Encourages flexible learning	3.59	0.60	Accepted
3	Promotes learner autonomy	3.43	0.68	Accepted
4	Enhances digital competence of pre-service teachers	3.61	0.57	Accepted
5	Supports curriculum continuity during disruptions	3.52	0.64	Accepted
6	Improves student engagement through multimedia	3.39	0.72	Accepted
7	Encourages innovative teaching methods	3.48	0.66	Accepted
8	Supports online assessment and feedback	3.26	0.75	Accepted
9	Reduces overdependence on physical	3.33	0.70	Accepted

	classroom teaching			
10	Prepares future teachers for digital classrooms	3.64	0.55	Accepted

Grand Mean = 3.49

The result indicates that blended learning has strong prospects for improving curriculum delivery in Colleges of Education. The most highly rated prospects were improved access to learning materials, preparation of future teachers for digital classrooms, and enhancement of digital competence.

Research Question 3: To what extent are lecturers and students prepared for sustained blended learning?

Table 4: Preparedness for Sustained Blended Learning

S/N	Preparedness Indicator	Mean	SD	Decision
1	Lecturers can use basic digital tools	2.91	0.82	Moderate
2	Students can access online learning platforms	2.78	0.86	Moderate
3	Lecturers can design online content effectively	2.46	0.91	Low
4	Students have reliable devices for online learning	2.39	0.94	Low
5	Institutions provide functional LMS platforms	2.31	0.96	Low
6	Technical support is available when needed	2.28	0.98	Low
7	Online assessment is effectively managed	2.52	0.89	Moderate
8	There is institutional policy for blended learning	2.34	0.95	Low

Grand Mean = 2.50

The result shows that preparedness is only moderate. While some lecturers and students can use basic digital tools, institutional support, content design capacity, access to devices, and technical support remain weak.

Research Question 4: What strategies can enhance the sustainability of blended learning?

Table 5: Strategies for Sustaining Blended Learning

S/N	Strategy	Mean	SD	Decision
1	Provide stable internet connectivity on campus	3.74	0.49	Accepted
2	Train lecturers regularly on digital pedagogy	3.70	0.52	Accepted
3	Subsidize data and devices for students	3.63	0.58	Accepted
4	Establish functional LMS platforms	3.68	0.55	Accepted
5	Provide alternative power supply	3.66	0.57	Accepted
6	Integrate blended learning into curriculum planning	3.60	0.61	Accepted
7	Create technical support units	3.57	0.64	Accepted
8	Monitor and evaluate blended learning implementation	3.49	0.69	Accepted
9	Encourage use of open educational resources	3.45	0.72	Accepted
10	Develop institutional blended learning policies	3.64	0.59	Accepted

Grand Mean = 3.62

The result shows that respondents strongly supported all the listed strategies.

Test of Hypotheses

H1: There is no significant difference between the mean responses of lecturers and students on the challenges affecting blended learning sustainability.

Table 6: t-test Analysis of Lecturers' and Students' Responses on Challenges

Group	N	SD	Me an	Df	t- cal	p- val ue	Decisio n
Lectur ers	12 0	3.4 2	0.5 1	35 8	1.4 8	0.1 40	Not Signific ant
Stude nts	24 0	3.3 4	0.5 6				

Since the p-value of 0.140 is greater than 0.05, the null hypothesis is not rejected. This means that lecturers and students do not differ significantly in their views on the challenges affecting blended learning sustainability.

H2: There is no significant difference between the mean responses of lecturers and students on the prospects of blended learning.

Table 7: t-test Analysis of Lecturers' and Students' Responses on Prospects

Group	N	Me an	SD	df	t- cal	p- val ue	Decisio n
Lectur ers	12 0	3.5 3	0.4 8	35 8	1.1 2	0.2 63	Not Signific ant
Stude nts	24 0	3.4 7	0.5 2				

Since the p-value of 0.263 is greater than 0.05, the null hypothesis is not rejected. This implies that lecturers and students have similar perceptions of the prospects of blended learning for curriculum delivery.

VI. DISCUSSION OF FINDINGS

The findings revealed that poor internet connectivity, high cost of data, irregular electricity supply, inadequate devices, poor funding, and limited digital competence are the major challenges facing blended

learning in Colleges of Education in Nigeria. These findings agree with recent studies which reported technical support deficits, lack of institutional guidance, time constraints, and digital skill gaps as barriers to blended learning among pre-service teachers.

The findings also support the view that blended learning cannot be sustained through individual effort alone. It requires institutional planning, funding, infrastructure, and policy support. Although many lecturers and students now use digital tools, the results show that basic use of technology is not the same as effective blended learning. For blended learning to improve curriculum delivery, lecturers must be trained in online pedagogy, assessment design, digital feedback, learning management systems, and multimedia content development.

The study also found that lecturers and students share similar views on both the challenges and prospects of blended learning. This suggests that the problem is widely recognized by both teaching staff and learners. Therefore, solutions should not focus on one group alone. Sustainable blended learning should involve lecturers, students, administrators, government agencies, internet service providers, and development partners.

Another important finding is that preparedness remains moderate. This means that Colleges of Education are not starting from zero, but they are not yet fully ready either. The current situation can be described as a transition stage. Many institutions have begun using digital tools, but they still need stronger systems, better funding, clearer policies, and more consistent training.

VII. CONCLUSION

The study concluded that blended learning has strong potential to improve curriculum delivery in Colleges of Education in Nigeria, but its sustainability depends on how well existing challenges are addressed. Poor internet connectivity, high data costs, irregular power supply, inadequate devices, weak institutional platforms, poor technical support, and limited digital skills remain major barriers.

However, the prospects are promising. Blended learning can improve access to learning resources, support flexible teaching, encourage independent learning, strengthen digital competence, and help Colleges of Education continue academic activities during disruptions. Since Colleges of Education train future teachers, sustaining blended learning in these institutions will have a wider effect on the Nigerian basic education system.

The study therefore concludes that blended learning should not be treated as an emergency substitute for physical teaching. It should be planned, funded, monitored, and integrated into the curriculum delivery system of Colleges of Education.

RECOMMENDATIONS

1. Government and college management should invest in digital infrastructure. Colleges of Education need stable internet access, functional computer laboratories, campus Wi-Fi, learning management systems, and alternative power supply.
2. Lecturers should receive regular training in digital pedagogy. Training should go beyond basic computer literacy and focus on online content design, blended lesson planning, digital assessment, feedback, and learner engagement.
3. Colleges should establish technical support units. These units should help lecturers and students resolve platform, login, assessment, and content-access problems.
4. Institutional blended learning policies should be developed. Each College of Education should have clear guidelines on platform use, attendance, online assessment, digital ethics, intellectual property, and student participation.
5. Open educational resources should be encouraged. Lecturers should be supported to use free and quality digital materials to reduce the cost of learning resources.
6. Monitoring and evaluation should be continuous. College administrators, NCCE, and relevant education agencies should monitor the implementation of blended learning to ensure quality and consistency.
7. Blended learning should be inclusive. Special attention should be given to students in rural

areas, students with disabilities, low-income students, and those with limited access to devices.

8. Public-private partnerships should be strengthened. Government, Colleges of Education, telecom companies, technology firms, donor agencies, and NGOs should collaborate to improve digital learning access.

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