

# Incorporating Technology into the Conventional Education System: The University of Benin Experience

## Abstract

Technology plays a crucial role in enhancing the delivery of educational content. This paper examines the extent to which conventional universities in Nigeria have embraced technology in their teaching methods, focusing specifically on the University of Benin's approach post-COVID-19. It explores the university's technological infrastructure and how it is utilized for teaching and learning. Using a case study approach, the paper highlights the efforts of a lecturer with a background in Open and Distance Learning (ODL), who integrates digital tools into her teaching and assessment through blended learning. To validate the findings, a survey and interviews were conducted to assess the extent to which other lecturers incorporate technology into their pedagogy. The study reveals that major challenges, such as unreliable electricity and poor internet connectivity, hinder effective technology adoption in teaching and learning. The survey and interviews reinforce observations made in the case study, confirming the limited technological integration within the university. Given that graduates must compete in an increasingly technology-driven world, the paper recommends that the university reassesses its policies and practices to enhance the use of digital tools in pedagogy, ensuring students are adequately prepared for modern academic and professional environments.

**Keywords:** ODL, Technology and pedagogical activities, University of Benin, Blended learning and assessment, post-COVID-19

## Introduction

The Nigerian higher education system tends to uphold conventional teaching methods, often overlooking Open and Distance Learning (ODL) as a viable alternative. Despite the disruptive effects of COVID-19 on global education, many Nigerian universities remain resistant to technology-driven pedagogy. The University of Benin exemplifies this challenge, where traditional face-to-face teaching remains dominant despite the necessity for digital transformation.

This study investigates the extent to which technology has been integrated into pedagogical practices post-pandemic, using a case study, survey, and interviews to explore the experiences of lecturers and students. The findings reveal significant challenges such as infrastructural deficiencies, lack of access to digital tools, unreliable electricity supply, and resistance to technology adoption. This paper advocates a shift toward technologically enhanced pedagogy, emphasising its importance in preparing students for a digitally driven global economy.

## Statement of the Problem

COVID-19 forced educational institutions worldwide to incorporate digital tools into teaching and learning. While universities elsewhere embraced digital transformation, institutions like the University of Benin remain largely reliant on traditional methods, with limited integration of technology into their pedagogical structures. This study explores the reasons behind this resistance, examining both institutional and individual barriers to technology adoption.

## Research Objective

This study assesses the level of technology integration in pedagogical activities at the University of Benin post-pandemic.

## **Research Question**

To what extent has technology been incorporated into pedagogical practices at the University of Benin since the COVID-19 pandemic?

## **Scope of the Study**

The study focuses on technology adoption in the university's teaching and learning framework. Using a case study approach, it examines firsthand experiences of a lecturer from an ODL background attempting to implement digital tools in conventional classrooms. Additional insights were gathered from an online survey among lecturers and informal interviews with students to assess technological exposure and usage.

## **Literature Review**

### **COVID-19 and Education**

COVID-19 drastically reshaped education, accelerating the adoption of digital tools for remote learning (Zimmerman, 2020). Institutions worldwide leveraged platforms like Google Meet, Zoom, and Microsoft Teams to maintain instructional continuity. The National Open University of Nigeria (NOUN), which had already integrated digital teaching with its GST courses, adapted swiftly. It expanded its virtual learning environment, showing how technology could mitigate disruptions. The pandemic reinforced the necessity of technological adaptation across all educational institutions, making it clear that traditional delivery models were insufficient when hit by unexpected situations like the COVID-19 pandemic.

### **Technology in Education**

Technology in education has evolved beyond mere tools for administrative tasks to become central to instructional delivery (CADimensions, n.d.; Fawns, 2022). While private universities in Nigeria have embraced advanced technological infrastructure, conventional public universities have lagged. The absence of widespread digital adoption hinders efficiency and competitiveness in these institutions. Research suggests that technology enhances education when intentionally integrated into pedagogy (Afemikhe, 2025; Chiu et al., 2023).

### **Pedagogy and Technology**

The debate on whether technology should drive pedagogy or vice versa remains unresolved (Fawns, 2022). Scholars argue for the entanglement of both elements, emphasising that technological tools should complement teaching methodologies rather than replace them (Fawns, 2022). The ability to harness digital resources effectively depends on institutional policies and educators' willingness to embrace new approaches. Williamson (2016) highlights the importance of digital governance in education, noting that data-driven pedagogical strategies significantly improve student engagement and learning outcomes.

### **Methodology**

The study combines case study (Eyisi et al., 2012) and survey methods (Ogbulogo, 2012) to assess technology integration in pedagogy at the University of Benin. The case study focuses on the experiences of a lecturer attempting to implement technology-enhanced teaching. The survey, conducted among lecturers primarily from the Faculty of Arts, explores their familiarity with and usage of digital tools. Informal interviews with students provided additional perspectives on technological accessibility and attitudes toward digital learning.

Data collection included:

- Observation of pedagogical practices within the university.
- Google Form surveys to gather responses from lecturers on their use of technology.

- Student interviews conducted during class discussions to gauge familiarity with technological tools.

The data was analysed using thematic coding to identify patterns in technology adoption as well as the Google form automated analysis to establish trends in the data. The discussion of the result was done alongside the data analyses as presented below. The summary of the key findings is highlighted thereafter, with the limitations to the study identified subsequently.

### **Data Analysis and Discussion**

Like noted above, the research adopted an eclectic approach. Each subsequent subsection represents this approach. The discussion highlights the results from the analyses in each subsection.

#### ***Case Study***

The University of Benin served as the research location as well as doubling as the generic Nigerian conventional university representative. It is necessary to state that this is a Federal Government owned university. As such, it is important to note that its competition and contemporaries are also owned by the Federal Government to be comparable. This is necessary considering that the selling point for most private universities is that they are tech savvy. Nonetheless, as the major focus is the record of the real time experience of the researcher, it may be necessary to stick to the focus on a Federal University status, considering that her own comparative background is the same Federal Government owned university where she came from to the University of Benin.

The data collection for this aspect was mainly from the observations of the lecturer of focus as she tried to use technology to effectively deliver her pedagogy. The major challenges include the followings that were observed.

No provision was made for a laptop or desktop to work with. No printer is available, except in the HOD's office. It appears that the other lecturers lack this important operational device. One therefore wonders how the lecturer is expected to prepare lecture notes and questions to be sent in confidentiality to the Examination Officer of the Department, who is expected to collate these questions and prepare them for processing.

In addition, not even one of the classes that had been used by the researcher has a built-in projector or screen for projecting slides while teaching. This is a tall order though considering the very epileptic power supply situation on the campus. As such, even with personal devices, to even prepare the lecture notes is a problem.

Another observation has to do with the campus internet. Despite seeing many available internet networks' names all over the campus, every attempt to connect to them for the purpose of testing them had proved abortive. None of them seems to be viable. To corroborate this, the time the lecturer needed to make a quick trip, she told the undergraduate students that she would conduct a virtual class with them to fill the time space. However, all of them complained that they would not want it because there was no internet for them to connect. They therefore preferred that the classes should continue whenever she returned. This was quite strange as one had seen a close friend had classes with the students online from two other universities, one a private university and another, a Federal Government university. However, as the students themselves seemed comfortable with not connecting online, this was taken as the only option by the lecturer.

Nonetheless, she was able to continue her class with the postgraduate students online. Even though this had its challenges, she noted that many of them seemed to prefer virtual classes. This could be explained by the fact that they are mostly employees who probably use the same resources from their employment to solve the problem of funds for their studies. Nevertheless, as was observed during the class and departmental seminars, most of these students were not interested in making presentations with PowerPoint. This was noted and was found quite worrisome because there is no presentation done by students in the researchers' home institution that was not done through the preparation of a simple thing like PowerPoint presentation. It was a given because there was an insistence for them to do just that,

whether during class seminars or major defence. This was intended to prepare for functioning effectively in the real world.

The lecturer also prepares her notes as Power Point presentations, which she then passes to the students through their course leaders for their revision. In addition, she makes videos of some topics and upload the same to her YouTube channel (@akewoauthe). The link is then supplied to the students through their course representatives. She expected this to be helpful to the students if they make out the time to watch these and use the resources effectively. Even though the students did not reject this overture, even seem to appreciate it, the researcher observed that they seem not to watch these videos until they are about to do their examinations as shown by the data on the YouTube channel.

### Survey

The purpose of this survey is to help determine if the observations of the researcher are real or totally imagined.

The first part of the questionnaire sought to determine the cognate experience of the respondents. This is to ensure that the experience of those filling the form should not be so low that it accounts for their lack of innovativeness. The figure below presents the breakdown.

Cognate experience in years. Tick one as applicable  
16 responses

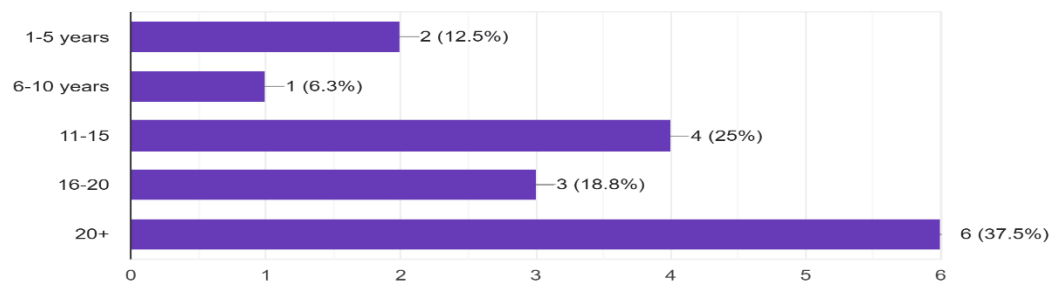


Figure 1: The cognate experience of the respondents

Figure 1 presents the cognate experience of the respondents. The highest number of respondents have 20+. This reveals that most of the respondents are very experienced. However, most of them are from the Faculty of Arts. In actual fact, only one person is from the Faculty of Social Sciences among the respondents. This is worrisome and expatiated upon under Limitation.

The next section presents the questions about the level of exposure to technology. The question about their use of a technology-related activity such as the use of PowerPoint received 75% negative.

Do you teach with power point slides in your class

16 responses

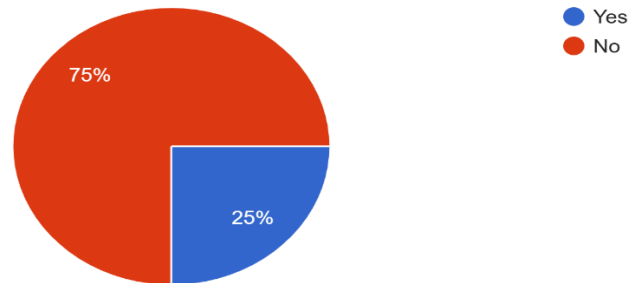


Figure 2: Use of power point slides for teaching response

However, when asked about the sort of technological device they have used before for their pedagogical purpose, Figure 3 below presents their responses.

Name one item you consider a technological equipment physically available in your class that helps to make your teaching more effective during class.

15 responses

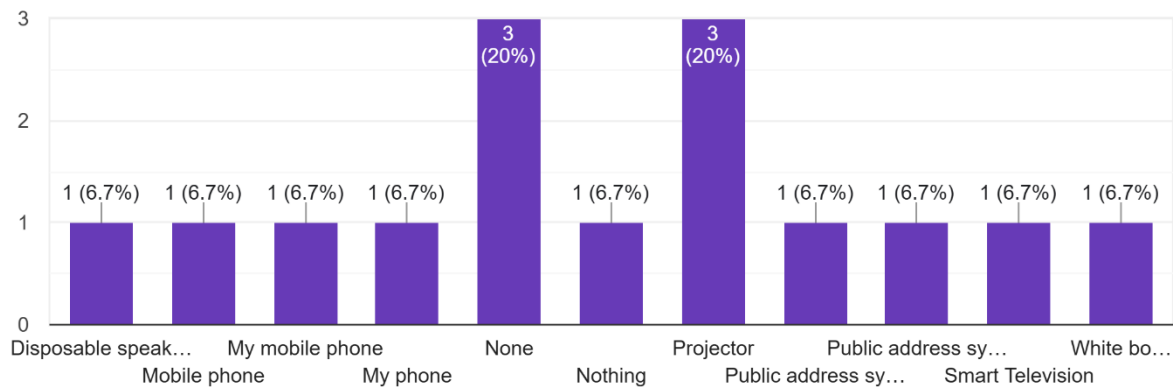


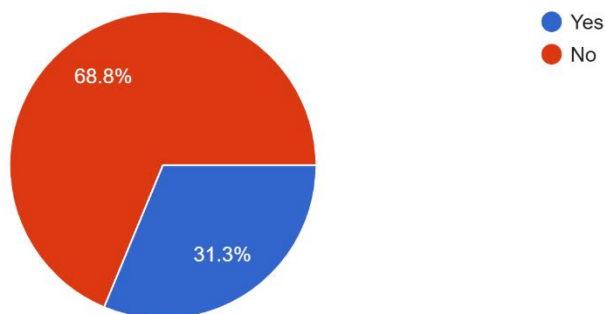
Figure 3: Use of mobile phones in class

While some indicated none, most of them actually indicated that they have been using mobile phone to accompany their teaching. The reality is that most of them already have the mobile phone to use for their teaching. One of the lecturers that responded to the questionnaire noted that she sometimes asks students to look up something on Google during the class with their phones. Thus, she wanted to know if the mobile phone should also be regarded as technology within the sense of its use in the research work.

The lecturers do not use projectors or carry their laptops to class for teaching purposes. It is then clear that using these devices are not popular with them. One may wonder if this is related to their answers that they use their mobile phones instead. Digital education does not appear to be very popular with lecturers and students at the University of Benin.

Do you use projector in your class during teaching?

16 responses



How often do you teach with your computer?

16 responses

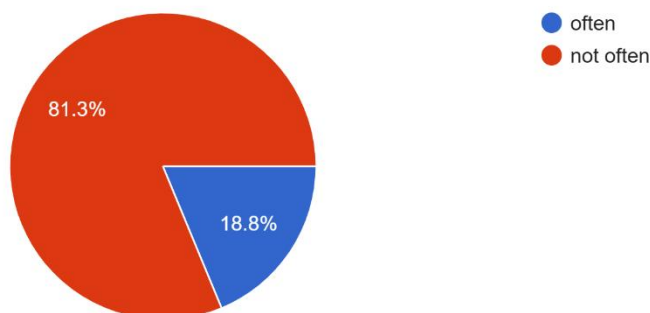


Figure 4: Response to the use of computer and projector in the class

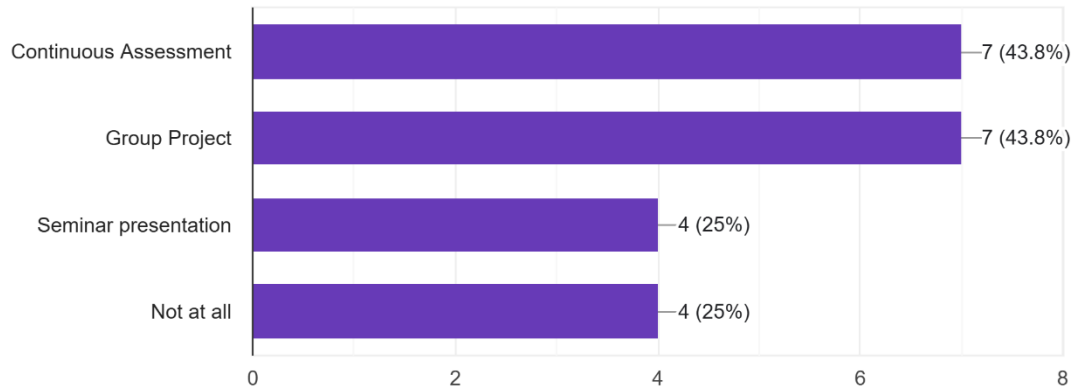
These are interesting responses captured in Figure 4. Obviously, the questions are related. In addition, they confirm the observation of the research on the lack of projectors in the classes at the University of Benin. Majority of the lecturers say they do not use the projector to teach in their classes. The question is: How come the 31.3 percent are able to? From the observation of the researcher, it appears that the projector being used in her department is the personal property of the professor that uses it more often, or where it belongs to the Department, it is in his custody. The researcher observed that apart from the students of a particular professor that prepare PowerPoint slides for their seminar presentation, none of the other students even bother. That the students are not curious to learn this basic skill when some of them are likely to end up being academics, would be going to conferences to talk to colleagues, is another worrisome reality. One then wonders how many of the colleagues do their conference presentations without this tool. Or probably, they do not see the connection between their teaching and the presentation of their conference papers. This appears to be the sensible explanation for the negative response to these two questions about their using computer and projector to teach their lessons. The lack of the projector in the classes as well as their having to purchase their own laptops, if they do have, could also have such effects on their use of these tools for teaching.

Part of pedagogy is evaluation. Afemikhe (2025) strongly advocates the integration of innovative evaluation to pedagogy for effective delivery of education. The next question is thus about the way the University of Benin lecturers

apply technology to their evaluation of students' learning within their pedagogical practices. Their response is presented below in Figure 5.

In what ways do you engage technology for the evaluation of your teaching? Tick as many as applicable to you.

16 responses



It appears that the most popular way they use technology are for continuous assessment and group project. These could be grouped under formative assessment. They are made up of 43.8% occurrences each, making up 7 respondents in each case. It is interesting. This seems to conflict with their previous answers. However, one may also look at this from the angle of those that indicated Not at all (25%), it appears that some were not using this in any way to evaluate their students. The low response to this could also be indicative of the old ways of doing things. The response to seminar presentation (25%) bears out the observation above concerning the low use of presentation slides, which would have been most fitting for this sort of assessment. It clearly shows that the lecturers that use presentation are probably the same that indicated above that they use projector in class teaching.

However, the interesting answers provided below on why they do not use technology for teaching is quite insightful. Could this be all? Figure 6 suggest that the lecturers that responded to this survey would have wished to have access to technology to add it to their pedagogy for better efficiency.

If you do not apply technology for either teaching or evaluation in your courses, state the major constraint hindering from doing so.

16 responses

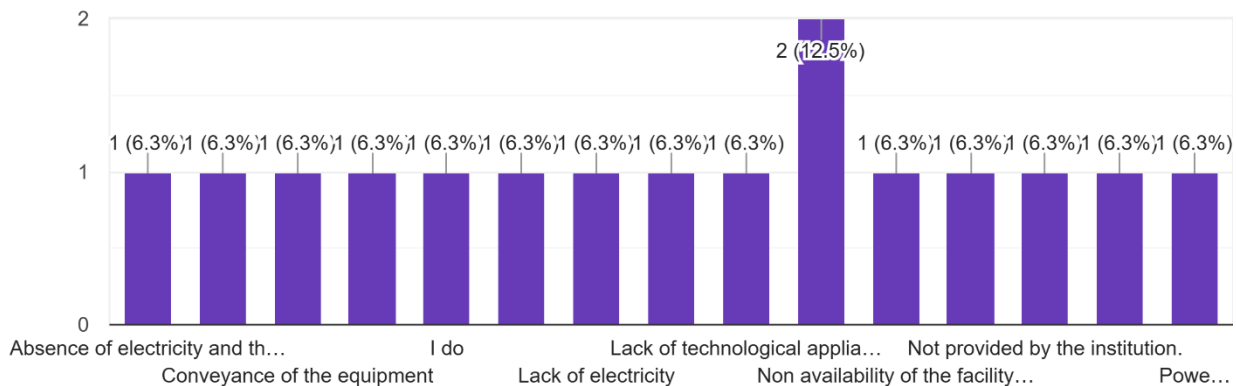


Figure 6: Constraint to the use of technology

This figure shows that many complained about electricity as a major factor that hinders their use of technology while others adduce it to the non-availability of the devices. The question is about creativity. If the same people say they use their mobile phones to teach, how come they say they do not have the technology in this question. However, the problem of electricity is real. To be fair to the university, the astronomical tariff as created by the Federal Government of Nigeria last year did not spare any of the Nigerian public institutions. It happens to be the reason the Federal Government gave for deciding to go solar at the seat of government, Aso Rock Villa. Nevertheless, looking at education as more of a social service rather than a commercial one, it appears that the university would need to become more creative and look for other sources of power to run its business. This is a reality that cannot be wished away. Apparently, the low use of power for pedagogical purposes may excuse why the university may not give priority to the provision of electricity to the point that it is one of the major constraints for technological integration to the pedagogical practices by lecturers at the University of Benin.

The lecturers' response to what technological equipment they would love to have if the university would provide it gave interesting and insightful responses. Table 1 provides some of the things the lecturers would like to help in their delivery of content to their students.

If you are given the opportunity, state clearly the type of technological equipment you will like the University of Benin Management to provide in order to enhance your teaching experience for greater effectiveness.

Projector, laptops and electricity

Interactive board

PAS, projector and AI teaching models

Computer

Functional projectors in all classrooms; laptops for all lecturers; constant power supply

Whatsapp and powerpoint.

Computer

Power, sockets to plug equipment, interactive boards

Laptops, projector and data
Projector and the whiteboard
Slides/ PowerPoint equipment
Laptops, constant light, media system
A more elaborate e-resource library, a laptop, free internet facilities, a projector.
Interactive Boards
Laptop, projector and steady supply of electricity
Projector and Power Point

Table 1: Technological items to enhance pedagogy in University of Benin classes

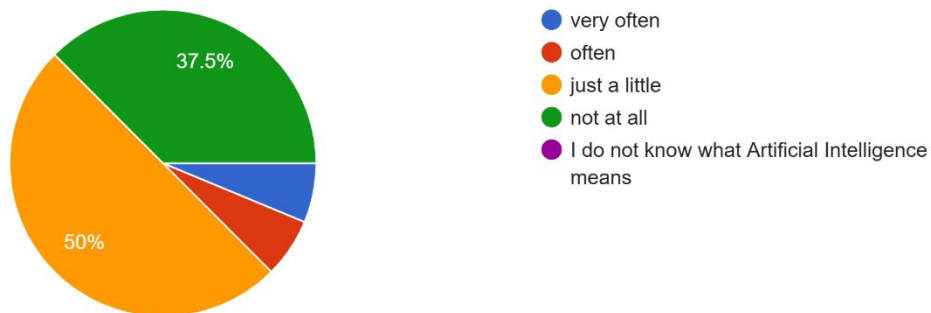
You will notice that the researcher noted that there are no projectors in the classes and the electricity to even power them is not available. In addition, laptops/computers are also part of what the lecturers desire that the university should get for them to ease the cumbersomeness of their work. With the prohibitive cost of such gadgets, the university may really need to help its staff members to get the devices that will enhance their pedagogical delivery. Since the terrible devaluation of the Naira, such things appear to be out of the reach of most lecturers. These things are imported; and the highest paid professor may be having salary that hovers around \$500. There are no cheap devices within the reach of many of these people. The university may thus need to help to find a way of getting such tools into the hands of the lecturers. One cannot imagine a lecturer needing to set questions for the students or prepare their teaching slides and have to go to the cyber cafes to get such services. That will not be to the benefit of the university at all.

The other questions in the questionnaire tried to extract direct information on their instances of practical use of technology for their pedagogical delivery. It is clear that they use phone for student support in terms of forming WhatsApp group chat. In addition, many of them claim to have used video or audio downloaded from the virtual space to enhance their teaching. Even though this has not reached the extent of preparing video lessons for them like the researcher reported above, it is a step in the right direction.

On their use of Artificial Intelligence, many (35%) deny that they use it to prepare their classes while half of them (50%) said they use it a little. In the same vein, they seem to think that their students make extensive use of AI in doing their assignments.

How much do you use Artificial Intelligence to prepare your classes?

16 responses



### Have your students submitted assignments to you that were created by Artificial Intelligence?

16 responses

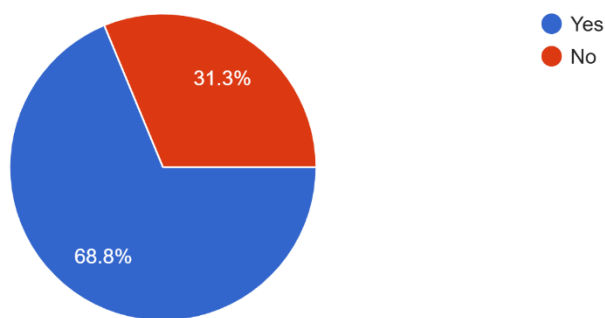


Figure 7: Artificial Intelligence (AI) usage in pedagogy

They have different ways of identifying this unethical use of AI, mainly through gut feelings. This may not be too scientific. Nonetheless, one would have felt that even the mobile phones could help here.

The major question is about the possible Learning Management System (LMS). Surprisingly, most of them (75%) are not aware of this. In the question on how they use it for teaching, some of the responses assert that this is available in some Faculties. The question is, is that even possible? If the university has it, it should be used for all its pedagogical operations. This suggests only one thing; it is not available. It is thus surprising that some respondents claim it exists. Probably because they do not understand what an LMS is. And it is safe to say this as even the researcher too was never introduced to this facility for use unlike what obtains in her home university where it is an integral and central part of its pedagogical operations. However, **if** it is basically used to manage the administrative usage to operate students' portal, it explains why they say 'no'.

### Do you know if the University has a technology based learning management system such as Sakai, Google Blackboard or the free Moodle?

0 / 16 correct responses

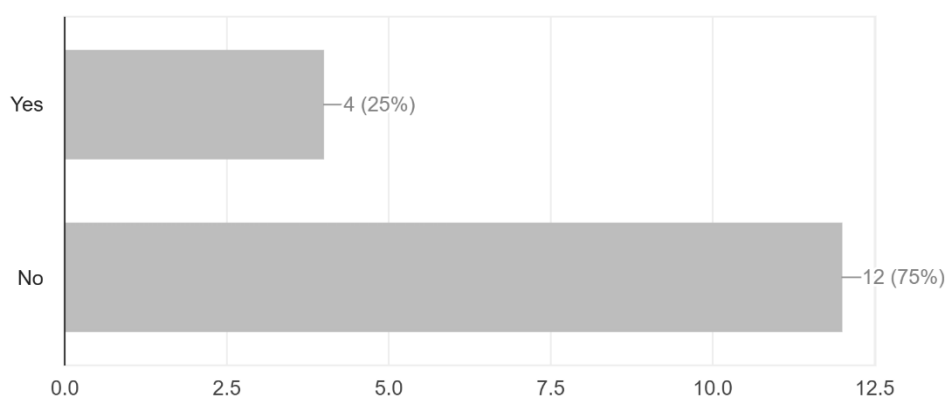


Figure 8: University LMS availability

If your answer above is yes, give a brief explanation of how you use it to manage your course/class.
Not used
No
I use UniBen plagiarism and edit model Turn it-in to check and proof my supervisees works and Result package to enter score and grades
My answer is no
No
I don't know if they used it.
Online teaching
None
NA
No
My answer was no
I teach manually
Not applicable
This doesn't apply
Does not apply
In some faculties, they have Smartboard

Table 2: Usage of university LMS if available

Whichever angle you look at the responses concerning the LMS usage, the response shows that it is not being used. Again, it will be interesting to find out why those that said ‘yes’ gave that answer.

***Students interview***

Many of the students were interviewed at different points during classes. Essentially, they seem to be afraid of using PowerPoint. The undergraduates’ complaint was basically about the network. As noted above, the University of Benin internet access is weak or rather inaccessible.

There is also the problem of electricity in the classes. The students acknowledge this as a problem too. In essence, even if there are devices in the classes or with the lecturers, the power issue would still have made it difficult to get the best result and effect for efficient pedagogical delivery. This is a critical constraint that must be tackled as soon as possible.

However, this calls to question the recommendation by Igbineweka (2025) recommendation that the university should explore moving its activities online as a way of saving cost. He held the National Open University of Nigeria as an example of how this can happen. One would have found the suggestion an appropriate one if the lecturers in the University of Benin actually have access to the technological devices and infrastructure to make this work. Indeed, his recommendation for online teaching of theory and physical teaching of practicals would make a lot of impact when the university takes note and addresses the many challenges identified by the lecturers as the hindrance to their maximal functionality as had also been experienced by the researcher, who incidentally came from the National Open University of Nigeria, which happens to be her primary institution and understands the amount of money that the university has pumped into setting up and maintaining its digital architecture/infrastructure that has become the envy of all. University of Benin Management would really need to consider the proposal with a modification provided by the results of this research.

## Summary of Findings

Having discussed the results obtained from the analysis above, the key insights from the study reveal that:

- Technology adoption in pedagogy remains minimal;
- Lecturers lack adequate digital tools such as computers and projectors;
- Poor electricity supply prevents effective use of digital teaching tools;
- Internet connectivity is unreliable, limiting virtual learning opportunities;
- Lecturers display limited familiarity with digital teaching methodologies;
- Students exhibit reluctance toward digital learning, preferring conventional methods.

## Limitations

Some limitations to the study are identified.

The survey response rate was low, primarily due to lecturers' reluctance to participate. Limited engagement from faculties beyond Arts and Social Sciences restricts the scope of findings, though trends suggest similar challenges across the university.

Additionally, financial constraints on the lecturers appear to impact technological access. University-provided digital tools are inadequate, making implementation difficult. Addressing these systemic issues requires policy intervention and investment in educational technology.

## Conclusion

Despite global technological advancements in education, the University of Benin appears disconnected from digital pedagogy. Poor infrastructure, unreliable electricity, and resistance to digital teaching seem to prevent meaningful integration of technology into classrooms. Without urgent intervention, students could struggle to compete in an increasingly technology-driven academic and professional landscape.

The university must:

- Invest in digital infrastructure (computers, projectors, internet connectivity);
- Train lecturers to enhance digital literacy and pedagogical innovation;
- Revise institutional policies to prioritise technological integration in education;
- Encourage students to engage with digital learning tools proactively.

Technology should not replace pedagogy but complement it, ensuring efficient, innovative, and inclusive education in Nigeria's conventional university system. Institutions that resist change risk falling behind in global academic advancements (cf. Firstpost, 2025). University of Benin could take bold and intentional steps to attain these changes to advance meaningfully (cf. Igbineweka, 2025) in the new world order.

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## Appendix

1. Link to Google Form

<https://docs.google.com/forms/d/1jSRAlxnh5dCeSSY62IoIUT5gfT2QJr1UwigvKirMBeQ/edit#responses>

2. Link to the Google Sheet with the responses

[https://docs.google.com/spreadsheets/d/1xAXUq8z4Ro4hUsfB3c\\_IPz5opPGLHKQ-9rPtBD6H\\_c8/edit?resourcekey=&gid=1771298253#gid=1771298253](https://docs.google.com/spreadsheets/d/1xAXUq8z4Ro4hUsfB3c_IPz5opPGLHKQ-9rPtBD6H_c8/edit?resourcekey=&gid=1771298253#gid=1771298253)