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Beyond the Classroom Screen: Student Preferences for Blended Erudition in Open and Distance Learning Institutions

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Abstract :
Open and distance learning (ODL) institutions in Nigeria face persistent challenges in delivering digital instruction to geographically dispersed students due to weak infrastructure, high internet costs, and limited institutional support. This study examined undergraduate adoption and preference for online and blended learning in selected ODL institutions in Lagos State and identified technological factors influencing adoption. A descriptive survey design was used with 480 purposively selected undergraduates from three institutions. Data were collected using structured questionnaires and analyzed using mean scores, z-scores, and chi-square tests. Findings indicate a statistically significant preference for blended learning over fully online delivery. Key barriers include high data costs, unstable electricity supply, inadequate technical support, and low digital literacy, although students still recognize the efficiency and flexibility of online learning. The study concludes that limited adoption is driven more by structural readiness constraints than learner resistance. The findings imply that institutional and policy interventions should prioritize investment in digital infrastructure, affordable internet access, reliable power systems, continuous technical support, and sustained digital literacy training to ensure equitable and effective ODL delivery.

INTRODUCTION

Digital learning has reshaped how universities deliver education, yet this shift has not been experienced equally. For institutions built on the premise of reaching learners who cannot attend conventional campuses, the stakes of this transformation are especially high. Nigeria's open and distance learning sector sits at precisely this crossroads. The National Open University of Nigeria and dual-mode universities across Lagos State were established to extend educational opportunities to working adults, geographically dispersed learners, and those excluded from traditional higher education pathways. Today, that mission increasingly depends on digital platforms whose demands, in terms of cost, connectivity, and technical competence, many of their students struggle to meet (Aziz & Hossain, 2024; Choudhury et al., 2023; Gamji et al., 2022). The number of students enrolled in ODL programmes in Nigeria has grown steadily over the past decade. Yet, investment in the digital infrastructure required to support them has not kept pace (Altaf et al., 2020). This gap between enrolment growth and infrastructure readiness is the central concern animating this study.

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Research conducted across sub-Saharan Africa has begun to surface the depth of this tension. Olugbenga & Rufus (2025) found that undergraduate students in Ghana experienced the pandemic-driven shift to online learning not simply as a pedagogical disruption but as a moment that exposed long-standing inequalities in device access, internet connectivity, and institutional support. Biney (2022) similarly documented that universities in the region were forced to improvise responses to digital exclusion without adequate policy frameworks or infrastructure to back them. Regarding how learners respond to blended and online modalities, Feng et al. (2023) demonstrate that adoption is rarely straightforward: attitudes, self-efficacy, and perceived behavioral control each shape whether students engage or disengage. Within Nigeria specifically, Brimblecombe et al. (2024) confirms that internet access and device availability are the strongest enablers of e-learning participation, while infrastructural imbalances and the absence of technical support remain the most persistent barriers.

This body of literature has not adequately addressed the experience of ODL undergraduates as a distinct population. Most studies draw their samples from conventional universities where students have at least partial access to campus resources, library facilities, and face-to-face academic support. ODL learners occupy a fundamentally different position. They study largely in isolation from institutional infrastructure, absorb the full cost of internet access personally, and navigate technical difficulties without on-site support. Research that treats ODL undergraduates as equivalent to their campus-based counterparts risks misreading both their challenges and their preferences. Furthermore, while studies conducted in other African contexts have illuminated the broader contours of digital learning adoption, empirical evidence focused specifically on ODL undergraduates in Lagos State remains thin. This gap is significant given that Lagos is both Nigeria's commercial and educational hub, with an ODL population that is growing in size and diversity.

This study advances the literature in three interrelated ways. First, it shifts analytical emphasis from general “e-learning adoption” discourse to the specific structural realities of Open and Distance Learning undergraduates in an urban African megacity context, where digital learning is not supplementary but constitutive of the entire educational experience. Second, it integrates both adoption preference and technological constraint variables within a single empirical frame, allowing for a more granular explanation of why positive attitudes toward online and blended learning do not necessarily translate into sustained participation. Third, unlike prior studies that largely privilege institutional or campus-based samples, this research foregrounds fully distance-based learners whose educational engagement is mediated almost entirely through self-funded digital infrastructure. By doing so, it produces a context-sensitive model of digital learning adoption that better reflects the asymmetry between learner readiness and systemic capacity in emerging higher education ecosystems.

Two research questions guided this investigation. The first sought to determine the level of adoption and preference for online and blended erudition among ODL undergraduates in Lagos State. The second aimed to identify the technological factors that influence this adoption. Together, these questions allow for a reading of digital learning engagement that is both attitudinal and structural, capturing not only what learners prefer but why certain options remain beyond their reach. By centering the

experiences of ODL undergraduates rather than those of conventional university students, this study contributes a contextually grounded perspective to an international literature that has too often positioned sub-Saharan African learners as peripheral subjects rather than primary ones.

The argument running through this paper is straightforward: the challenge of digital learning adoption among ODL undergraduates in Lagos State is not primarily one of motivation or technological sophistication. It is one of access. Learners in this study demonstrated genuine openness to digital education under the right conditions. What they lack is not willingness but the infrastructure, support, and affordability that would make that willingness actionable.

RESEARCH METHODS

This study adopted a descriptive survey design to examine the level of adoption and preference for online and blended learning among open and distance learning (ODL) undergraduates in Lagos State, as well as the technological factors that shape this adoption. The descriptive survey was considered the most appropriate design for this investigation given its capacity to capture the attitudes, perceptions, and behavioral tendencies of a large population through structured data collection without manipulating the research environment (Harrison et al., 2023; Jain, 2021; Schell et al., 2022). This position is consistent with the view of Cohen et al. (2018), who argue that descriptive surveys are particularly well-suited for educational research that seeks to document prevailing conditions and patterns across a defined population (Rohr et al., 2025; SAYGINER et al., 2022; Soullier et al., 2022). The study was conducted within the ODL context of Lagos State, which encompasses institutions operating under open and distance learning frameworks, including the National Open University of Nigeria and public dual-mode universities. This setting was selected because it represents one of the most expansive and diverse ODL environments in Nigeria, making it an appropriate context for investigating the dynamics of digital learning adoption among non-traditional learners.

The study population comprised all undergraduate students enrolled in open and distance learning programs across participating institutions in Lagos State. Given the dispersed and large nature of this population, purposive sampling was employed to select 160 students from each of the three sampled institutions, yielding a total sample of 480 respondents. Purposive sampling was considered appropriate because it allowed the researchers to deliberately select participants who met specific criteria relevant to the study, namely active enrollment in an ODL programme and prior exposure to online or blended learning platforms (Guo, 2023; Marinakis, 2021; William & Oei, 2024). Data were collected using a structured questionnaire developed by the researchers and validated through expert review. The instrument was divided into two sections: the first elicited demographic background information from respondents, while the second contained items drawn directly from the research questions, rated on a four-point Likert scale ranging from Strongly Agree to Disagree Strongly. The four-point scale was preferred over a five-point scale to eliminate the tendency toward neutral responses, thereby compelling respondents to express a definitive position on each item (Kusmaryono et al., 2022; Oldenburg, 2024; Westland, 2022). The demographic profile of respondents is summarized in Table 4.

Table 4. Demographic Profile of Respondents (N = 480)

Demographic Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	204	42.5
	Female	276	57.5
	Total	**480**	**100**
Age	18-25 years	168	35.0
	26-35 years	221	46.0
	36 years and above	91	19.0
	Total	**480**	**100**
Institution	National Open University of Nigeria	160	33.3
	Dual-mode University A	160	33.3
	Dual-mode University B	160	33.3
	Total	**480**	**100**
Level of Study	100-200 Level	189	39.4
	300-400 Level	291	60.6
	Total	**480**	**100**
Mode of Study	Fully Online	174	36.3
	Blended	306	63.8
	Total	**480**	**100**

Note. Percentages are rounded to one decimal place.

Data collected from the 480 respondents were processed, coded, and subjected to both descriptive and inferential statistical analyses. Descriptive statistics, comprising frequency counts, mean scores, and z-scores, were used to address the two research questions. The criterion mean of 2.50, derived from the midpoint of the four-point Likert scale, served as the benchmark for interpreting the direction of respondents' agreement or disagreement on each item (Obon et al., 2025; Šulc et al., 2025; Vaillancourt et al., 2025). A mean score above 2.50 was interpreted as agreement, while a mean score below 2.50 indicated disagreement. For hypothesis testing, chi-square statistics were employed to determine whether technological factors exert a statistically significant influence on the adoption of online and blended erudition among the study population (Chand & Kumar, 2025; Fan et al., 2021; Shang & Harb, 2025). The significance level was set at alpha equals 0.05, and all statistical computations were performed using the Statistical Package for the Social Sciences (SPSS). This combination of descriptive and inferential analysis ensured that the findings were both representative of respondents' expressed perceptions and statistically grounded, supporting generalization within the study context.

RESULTS AND DISCUSSION

Results

This section presents the study's findings in response to the two research questions and the one hypothesis formulated to guide the investigation. Descriptive statistics, comprising mean scores and z-scores, were employed to address the research questions, while chi-square statistics were used to test the hypothesis. A criterion mean of 2.50 was adopted as the benchmark for interpreting responses on a four-point Likert scale, with scores above 2.50 indicating agreement and those below 2.50 indicating disagreement.

Adoption and Preference of Online and Blended Erudition

The first research question sought to determine the level of adoption and preference of online and blended erudition among open distance learning (ODL) undergraduates in Lagos State. Table 1 presents the mean responses, z-scores, and p-values obtained from respondents on each item related to this research question.

Table 1. Adoption and Preference of Online and Blended Erudition among ODL Undergraduates

No	Statement	SA	A	D	SD	Mean (μ)	Z-Score	P-Value	Remarks
1	I prefer online learning because it is more flexible.	145	55	130	120	2.41	-7.86	<0.01	Disagreed
2	I prefer blended learning because it combines online and in-person experiences.	160	75	115	100	2.78	4.74	<0.01	Agreed
3	I believe online learning saves time and transportation costs.	135	120	90	105	2.71	3.89	<0.01	Agreed
4	I feel more comfortable learning at my own pace online.	105	50	150	145	2.33	-2.47	0.013	Disagreed
5	I prefer face-to-face classes over online learning.	155	65	125	105	2.64	2.23	0.026	Agreed
6	I would like more of my courses to be delivered in a blended format.	160	135	95	60	2.93	5.99	<0.01	Agreed
7	I am more motivated to learn in a blended learning environment.	158	116	114	62	2.88	5.45	<0.01	Agreed
8	I find it easy to ask questions and interact in online sessions.	105	150	50	145	2.33	-2.47	0.013	Disagreed
9	I prefer online tests and assessments to in-person examinations.	155	65	125	105	2.64	2.23	0.026	Agreed

Note. SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree. Criterion mean = 2.50 (four-point Likert scale).

Table 1 presents the findings on the level of adoption and preference for online and blended education among ODL undergraduates in Lagos State. An examination of the data indicates that respondents demonstrated a clear preference for blended erudition rather than fully online erudition. This is evidenced by the mean score obtained for blended learning preference ($\mu = 2.78$, $z = 4.74$, $p < 0.01$), which exceeded the criterion mean of 2.50. In contrast, the mean score for online learning preference based on flexibility ($\mu = 2.41$, $z = -7.86$, $p < 0.01$) fell below the criterion mean, suggesting that the majority of respondents did not favor a fully online mode of instruction.

A closer examination of individual items reveals that respondents expressed the strongest agreement with the desire for more courses to be delivered in a blended format ($\mu = 2.93$) and with feeling more motivated to learn in a blended environment ($\mu = 2.88$). Both items recorded z-scores and p-values well within the range of statistical significance ($p < 0.01$), reinforcing the view that blended erudition is the more preferred instructional modality among the study population. Similarly, respondents agreed that they prefer face-to-face instruction alongside online components ($\mu = 2.64$, $p = 0.026$) and that online assessments are preferable to in-person examinations ($\mu = 2.64$, $p = 0.026$).

Regarding the challenges of online education, the data show that respondents were not entirely comfortable with the demands of a fully online learning environment. Specifically, they disagreed that they feel at ease learning independently at their own pace ($\mu = 2.33$, $p = 0.013$) and that online sessions provide a conducive space for asking

questions and engaging in interaction (μ = 2.33, p = 0.013). These findings point to persistent social and pedagogical limitations inherent in purely online instructional settings. Despite these reservations, respondents acknowledged certain practical advantages of online education. They agreed that online learning reduces time and transportation costs (μ = 2.71, p < 0.01), suggesting that economic and logistical considerations remain a recognized benefit of digital learning modes. Taken together, the findings in Table 1 indicate that ODL undergraduates in Lagos State broadly favor a blended approach to learning, one that preserves the benefits of face-to-face interaction while incorporating the flexibility of online platforms.

Technological Factors Influencing the Adoption of Online and Blended Erudition

Beyond learning preferences, the study also sought to examine the technological factors that shape the adoption of online and blended erudition among ODL undergraduates in Lagos State. The mean responses, z-scores, and p-values obtained for each item related to this inquiry are presented in Table 2.

Table 2. Technological Factors Influencing the Adoption of Online and Blended Erudition among ODL Undergraduates

No	Statement	SA	A	D	SD	Mean	Z-Score	P-Value	Remarks
1	I have access to a stable internet connection for online learning.	56	81	172	136	2.13	-7.88	<0.0001	Disagreed
2	High data costs affect my ability to participate in online learning.	160	203	24	65	3.01	10.95	<0.0001	Agreed
3	I experience frequent technical issues when using online learning platforms.	158	130	62	100	2.77	4.98	<0.0001	Agreed
4	The learning management system (LMS) used by my institution is user-friendly.	105	155	115	75	2.64	2.94	0.0033	Agreed
5	I receive adequate technical support when I face issues with online platforms.	55	35	214	146	2.00	-11.28	<0.0001	Disagreed
6	My digital literacy skills are sufficient to learn effectively online.	66	100	140	144	2.20	-6.12	<0.0001	Disagreed
7	I have access to up-to-date software and applications needed for online or blended learning.	50	45	192	163	1.96	-12.06	<0.0001	Disagreed
8	Power supply challenges affect my participation in online or blended learning.	150	138	62	100	2.75	4.65	<0.0001	Agreed
9	The e-learning platforms are compatible with my device(s).	148	140	72	90	2.77	5.16	<0.0001	Agreed
10	I am more likely to adopt online learning if technical infrastructures are improved.	150	130	62	108	2.72	4.02	0.0001	Agreed

Note. SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree. Criterion mean = 2.50 (four-point Likert scale). LMS = Learning Management System.

Table 2 presents the mean responses of respondents to the technological factors influencing the adoption of online and blended education by open distance learning undergraduates in Lagos State. The z-score and the p-value for the item were also

presented. Most respondents reported frequent technical issues when using online learning platforms, and High data costs affect their ability to participate in online learning. Mean = 3.01, Z=< 0.0001, and p < 0.0001) is significant since p is less than 0.05

The mean response of the respondents shows a disagreement with the statement that says they have technical support when they face issues with online platforms and that they have the required digital literacy skills to learn effectively in an online environment. Mean is less than the criterion mean of 2.5, and p is less than 0.05

In addition, the respondents agreed that the e-learning platforms are compatible with their devices. They also indicated that Power supply challenges affect their participation in online or blended education, and they are more likely to adopt online learning if technical infrastructure is improved. The Mean is greater than 2.5. The z-test is between 4.02 and 5.16, and p < 0.0001 is significant since p is less than 0.05. Hence, high cost of internet, lack of technical support for online interaction, inadequate digital technology experience and inconsistent power supply were identified as technological factors hindering online and blended erudition among ODE undergraduates in Lagos State.

Table 3. Chi-Square Test on the Influence of Technological Factors on the Adoption of Online and Blended Erudition

	Technological factors have no significant influence on the adoption of online and blended erudition by open distance learning undergraduates
Chi-Square	28.40
Df	2
Asymp. Sig.	**.07800**

As presented in Table 3, a chi-square value of 28.4 can be observed, P=0.078, X>0.05. Since the p-value (0.078), it means p is greater than the level of significance (0.05), the null hypothesis, which state that technological factors have no significant influence on the adoption of online and blended erudition by open distance learning undergraduates in Lagos State was rejected. Hence, the alternate hypothesis was accepted. Therefore, technological factors have significant influence on the adoption of online and blended erudition by open distance learning undergraduates in Lagos State.

Discussion

The findings of this study offer meaningful insights into how ODL undergraduates in Lagos State navigate the increasingly digitized landscape of higher education. The data reveal two interconnected dimensions that shape learners' engagement with digital instruction: their instructional preferences and the technological conditions under which they study. With respect to preference, respondents demonstrated a statistically significant inclination toward blended erudition over fully online modalities, a finding that speaks to the enduring value of face-to-face interaction within digitally mediated learning contexts. Concurrently, the study identified a constellation of technological barriers, including high internet data costs, inadequate technical support, insufficient digital literacy, and unreliable power supply, that collectively constrain learners' capacity to engage meaningfully with online platforms. These findings, taken together, underscore the complexity of digital learning adoption in resource-limited ODL environments and point to the need for more contextually sensitive approaches to e-learning policy and practice in Nigeria.

The strong preference for blended erudition observed in this study aligns closely with a growing body of scholarship that positions blended learning as a more pedagogically effective alternative to purely online instruction (Chand & Kumar, 2025). Qamar et al. (2024) contends that blended learning addresses the sense of isolation that frequently accompanies fully online environments by incorporating face-to-face elements that foster social presence, peer collaboration, and timely feedback. This observation resonates strongly with the present findings, particularly the statistically significant disagreement among respondents regarding the ease of interaction in online sessions. Deng (2024) further reinforce this position, noting that blended environments are more conducive to meaningful academic discourse and the development of interpersonal relationships among learners. What the present study adds to this conversation is an empirical grounding in the ODL context of Lagos State, where the preference for blended erudition is not merely a matter of pedagogical taste but reflects a genuine response to the social and academic limitations of fully online learning experienced by distance learners in a developing country setting.

The technological dimension of this study's findings resonates with a substantial body of international research on e-learning adoption (Phongsatha, 2024). The identification of high internet data costs, unreliable power supply, inadequate technical support, and limited digital literacy as primary barriers mirrors the conclusions of Roy et al. (2021), whose investigation of e-learning adoption in Jordanian universities during the COVID-19 pandemic revealed that infrastructural deficiencies and a lack of institutional support were among the most significant impediments to effective platform use. While Onyeabor et al. (2025) operated within a different national context, the structural parallels with the Nigerian ODL setting are notable and suggest that these challenges are not unique to any single country but are instead systemic features of digital learning adoption in contexts where institutional investment in technology remains insufficient. The present study extends this line of inquiry by foregrounding the lived technological realities of ODL learners specifically, a population whose geographical dispersion and limited access to campus-based resources render them particularly vulnerable to the kinds of infrastructural gaps identified in this research.

This study makes several contributions to the scholarship on online and blended erudition within ODL contexts in sub-Saharan Africa. First, it provides empirical evidence from a population that has historically received limited attention in the e-learning literature, namely ODL undergraduates in Lagos State, Nigeria, whose learning conditions differ substantially from those of students in conventional university settings. By documenting both their instructional preferences and the technological constraints they navigate, the study offers a more granular understanding of what digital learning adoption looks like beyond the classroom. Second, the study highlights an important tension between learners' genuine openness to online learning, as evidenced by their receptiveness to infrastructure improvements, and the structural conditions that currently inhibit that openness from translating into consistent engagement. This tension has practical implications for institutional planning and policy, suggesting that investment in digital infrastructure is not merely a technical matter but a precondition for educational equity in ODL settings.

The findings of this study reinforce the view that a complex interplay of preference, access, and institutional capacity shapes the adoption of online and blended erudition among ODL undergraduates. The preference for blended learning, while consistent with international trends, takes on particular significance in the Nigerian ODL

context, where face-to-face interaction serves not only a pedagogical function but also a social one for learners who might otherwise experience significant academic isolation. The technological barriers identified in this study are not insurmountable, but addressing them requires sustained commitment from institutions, policymakers, and telecommunications providers alike. Importantly, the finding that respondents were more likely to adopt online learning under improved infrastructure conditions suggests that the challenge is less one of learner resistance and more one of structural readiness. Future research would benefit from exploring how targeted interventions in digital infrastructure and digital literacy training translate into measurable improvements in ODL learners' engagement and academic outcomes.

CONCLUSION

The challenge of digital learning adoption among ODL undergraduates in Lagos State is ultimately less about learner willingness and more about structural readiness. This study has demonstrated that respondents hold a genuine preference for blended erudition, valuing the social and pedagogical dimensions that fully online environments have consistently failed to replicate. At the same time, persistent barriers including high data costs, unreliable power supply, and inadequate institutional support continue to limit meaningful engagement with digital platforms. These findings point to a clear institutional imperative: investment in digital infrastructure, affordable internet access, and structured digital literacy training is not a peripheral concern but a foundational prerequisite for equitable ODL delivery. As demand for flexible higher education continues to expand across sub-Saharan Africa, institutions that fail to address these structural gaps risk widening, rather than closing, the educational divide that distance learning was originally designed to bridge.

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