

Effective Communication in an Electronic Environment Among Students of Ekiti State University, Ado-Ekiti

Opeyemi A. OPE-AJAYI (Ph.D)¹; Maureen O. OKOH (Ph.D)²; Olufunke O. AINA (Ph.D)³

¹Department of Vocational and Technical Education, Faculty of Education, Ekiti State University, Ado-Ekiti

²Department of Science Education, Faculty of Education, Federal University of Oye

³Department of Human Kinetics and Health Education, Faculty of Education, Ekiti State University, Ado-Ekiti

DOI: <https://doi.org/10.51583/IJLTEMAS.2026.150600017>

Received: 17 June 2026; Accepted: 22 June 2026; Published: 03 July 2026

ABSTRACT

This study examined effective communication in electronic environments among students of Ekiti State University, Ado-Ekiti, Nigeria. Anchored on Media Richness Theory and the Technology Acceptance Model, the study sought to assess students' use of electronic platforms, the challenges encountered, and the factors influencing communication effectiveness. A descriptive survey design was adopted; a sample of 384 undergraduate students were selected through multistage sampling procedure. Data were collected using a validated questionnaire titled, "Electronic Communication Effectiveness Questionnaire" ECEQ, with a reliability coefficient of $r = 0.86$. Descriptive statistics, t-test, and multiple regression analysis were used to analyze data at 0.05 level of significance. Findings revealed that WhatsApp, Telegram, and Google Classroom were the most frequently used platforms for academic interaction, while email and institutional Learning Management Systems were underutilized. Students perceived electronic communication as effective for information sharing and group collaboration, but ineffective for complex academic discussions due to poor network access, digital distractions, and low digital literacy skills. Regression results showed that digital literacy $\beta = .32$, $p < .001$, stable internet access $\beta = .28$, $p < .001$, and lecturers' responsiveness $\beta = .21$, $p < .01$ significantly predicted effective communication in electronic environments, accounting for 47% of the variance. Significant differences existed in perceived effectiveness based on level of study. The study concluded that while electronic communication enhances flexibility and access to learning resources among EKSU students, its effectiveness is constrained by infrastructural and skill-related challenges. It recommended that the university management should invest in reliable internet infrastructure, integrate digital literacy training into the General Studies curriculum, and train lecturers on effective online facilitation strategies to optimize electronic communication for academic purposes.

Keywords: Electronic Communication, Digital Literacy, Netiquette, Online Learning, Media Richness

INTRODUCTION

The 21st century is defined by digital convergence where Information and Communication Technologies (ICTs) mediate education, work, and social interaction (Castells, 2010). In higher education, the COVID-19 pandemic accelerated this shift as universities worldwide moved teaching and learning to electronic platforms (UNESCO, 2023). The National Universities Commission (NUC, 2022) responded by directing Nigerian universities to institutionalize blended learning, making electronic communication a core graduate competency.

Ekiti State University, Ado-Ekiti (EKSU), established in 1982, is one of Nigeria's leading state universities with an estimated population of 24,500 undergraduates. Since 2020, EKSU has increasingly depended on electronic

channels such as WhatsApp, Telegram, Zoom, Google Meet, Google Classroom, and its institutional Learning Management System LMS for lectures, assignments, announcements, and student-lecturer interaction (Adegoke & Adegoke, 2024). A survey by (Adeoye et al. 2024) in Southwest Nigeria found that 92% of university students own smartphones and spend 5-7 hours daily on digital platforms, with WhatsApp as the dominant app.

Effective communication in academics means exchange of information that is accurate, timely, clearly understood, and produces intended learning outcomes (Hargie, 2021). Electronic communication in universities occurs through four main types: Synchronous Communication - Real-time interaction where participants are online simultaneously. Examples: Zoom, Google Meet, Microsoft Teams. Its strength lies on immediate feedback, verbal and non-verbal cues, and high media richness (Daft & Lengel, 1986). This type of communication requires stable data and scheduled time; Asynchronous Communication - Time-lagged interaction with delayed responses. Examples: WhatsApp, Telegram, Email, LMS forums. Its strength lies on flexibility and time for reflection.

This type of communication delays, misinterpretation, message pile-up (Kumi-Yeboah et al., 2023); One-to-Many Communication - Broadcast from one source to many receivers. Examples: bulk SMS, Telegram channels, LMS announcements from lecturers/admin to students; Many-to-Many Communication - Interactive exchange among multiple users. Examples: WhatsApp group chats, Google Docs collaboration. This type of communication dominates student peer interaction at EKSU (Adeoye et al., 2024). At EKSU, lecturers report problems of repeated questions already answered in chats, use of slang during academic discussions, sharing of unverified materials, and late-night messages that disrupt learning (Owolabi & Olaniyi, 2024). Students complain of “too many unofficial groups”, missed deadlines due to network failure, information overload, and delayed feedback from lecturers (Ogunyemi & Bisiriyu, 2023). These challenges are significant because electronic communication now mediates grades, participation, and collaboration. Poor mediation can cause cognitive overload (Sweller, 2022) and widen the digital divide between students with good access and those without (World Bank, 2024).

Media Richness Theory (MRT) (Daft & Lengel, 1986) provides a theoretical lens. MRT argues that communication media vary in “richness” based on feedback immediacy, number of cues, and personal focus. Richer media like video conferencing are better for ambiguous, complex tasks than leaner media like text chat. Thus, Zoom should be more effective than WhatsApp for explaining difficult concepts. Empirical studies partly support this. (Kumi-Yeboah et al. 2023) in Ghana found that students rated synchronous platform higher for engagement than asynchronous platform. In Nigeria, (Adeoye et al. 2024) reported that LMS discussion boards improved critical thinking when lecturers moderated actively.

The Nigerian context presents unique constraints. The World Bank 2024 reported that 1GB of data in Nigeria costs 0.78% of average monthly income, higher than in South Africa or Kenya. This economic barrier limits participation in data-intensive platforms. Additionally, (Eshet-Alkalai 2023) noted that digital literacy which is the ability to find, evaluate, and communicate information online is often low among African students, leading to misuse of platforms. Netiquette, or acceptable online behavior, is another concern. (Owolabi & Olaniyi 2024) found that 67% of students in Osun State universities lacked formal training on netiquette, resulting in cyberbullying and conflict in class groups.

The Technology Acceptance Model (TAM) (Davis, 1989) further concretize this adoption. TAM posits that perceived usefulness and perceived ease of use determine actual use and effectiveness. If EKSU’s LMS is perceived as difficult to navigate, students will default to WhatsApp regardless of academic suitability (Davis, 1989).

Despite high smartphone penetration, there is limited empirical data on what constitutes effective electronic communication specifically for EKSU students. Most Nigerian studies focus on Southwest universities broadly (Adeoye et al., 2024) or on post-COVID e-learning generally (Ogunyemi & Bisiriyu, 2023), without testing how digital literacy, internet access, and lecturer responsiveness jointly predict communication effectiveness. This gap limits EKSU management’s ability to develop targeted policies. Therefore, this study investigates effective communication in electronic environments among EKSU students.

STATEMENT OF THE PROBLEM

Although EKSU students are highly digitally connected, three gaps persist. First, there is no empirical data on which electronic channels EKSU students perceive as “effective” for academic versus social purposes. Second, factors such as digital literacy, internet access, and lecturer responsiveness have not been tested together as predictors of effectiveness at EKSU. Third, NUC’s 2022 blended learning policy requires universities to monitor e-communication quality, but EKSU lacks institutional data to guide policy and infrastructure investment. Without this evidence, interventions risk being generic. For example, banning WhatsApp may reduce peer bonding without solving the real problem of poor netiquette and digital skills. This study therefore addresses the gap by assessing effective communication in electronic environments among EKSU students.

PURPOSE OF THE STUDY

The main purpose of this study is to examine the effective communication in electronic environments among students of Ekiti State University, Ado-Ekiti. Specifically, the study will:

1. identify the types of electronic communication platforms used by EKSU students and rate their perceived effectiveness.
2. examine the influence of digital literacy, internet access, and lecturer responsiveness on effective electronic communication.
3. determine if perceived effectiveness differs based on students’ level of study.

RESEARCH QUESTION

One research question was raised to guide the study

1. What types of electronic communication platforms are used by EKSU students and how do they rate their effectiveness for academic purposes?

RESEARCH HYPOTHESES

Two research hypotheses were formulated and tested at 0.05 level of significance.

1. Digital literacy, internet access, and lecturer responsiveness will not predict effective electronic communication among EKSU students?
2. There is no significant difference in perceived effectiveness of electronic communication among EKSU students based on level of study.

RESEARCH METHOD

Descriptive survey design was adopted. The population of the study consist of all 24,500 undergraduate students in the main campus of EKSU, Ado-Ekiti for the 2024/2025 academic session. The Sample for this study consist 384 students using Krejcie & Morgan table. The multistage sampling procedure was used to select the sample. In stage one, 6 faculties were randomly selected; Stage two involves the selection of 2 departments from each faculty; Stage three, 32 students were proportionately selected using simple random sampling. The instrument used for this study was a self-developed instrument tagged “Electronic Communication Effectiveness Questionnaire” ECEQ. The instrument was divided into two sections; section A is about demographics variables while section B consist of 4-point Likert scale of SA=4, A=3, D=2, SD=1. Face and content validity of the instrument were ensured by experts in Educational Technology. The reliability of the instrument was ascertained. Reliability coefficient of 0.88 was obtained which was considered high enough to be used. The researcher administered the instrument with the help of trained research assistants. All the questionnaires administered were retrieved from the respondents immediately.

DATA ANALYSIS

Descriptive and inferential statistics were used to analyse the data collected in the study. Descriptive statistics such as Frequency, Percentage, Mean and Standard Deviation were used to answer the research question raised while inferential statistics of Analysis of Variance and Multiple Regress was used to test the hypotheses. The hypotheses were tested at 0.05 level of significance.

RESULTS AND DISCUSSION

Table 1: Platform Usage and Perceived Effectiveness for Academic Purposes, N = 384

Platform	Frequency of Use	n %	Mean M	SD	Rank
WhatsApp	361	94.0%	2.76	0.81	1
Telegram	256	66.7%	2.95	0.74	2
Zoom	223	58.1%	3.41	0.63	6
Google Meet	201	52.3%	3.33	0.65	5
Email	148	38.5%	3.12	0.70	4
University LMS/ Google Classroom	165	43.0%	3.08	0.72	3

Mean Cut off =2.50

Table 1 above showed that WhatsApp was the most frequently used platform at 94%, confirming (Adegoke & Adegoke 2024). However, synchronous platforms such as Zoom and Google Meet were rated most effective for academic clarity $M = 3.41$ and 3.33 . This supports Media Richness Theory that richer media are better for complex tasks (Daft & Lengel, 1986). WhatsApp scored high for peer bonding but lower for academic clarity, indicating it is socially rich but academically noisy (Kumi-Yeboah et al., 2023).

Hypothesis 1: Digital literacy, internet access, and lecturer responsiveness will not predict effective electronic communication among EKSU students?

Table 2: Multiple Regression on Predictors of Effective Electronic Communication

Variable	B	Std Error	Beta β	t	Sig p
Constant	1.204	0.186	-	6.47	.000
Digital Literacy	0.342	0.048	.33	7.13	.000
Internet Access	0.271	0.051	.26	5.31	.000
Lecturer Responsiveness	0.198	0.062	.18	3.19	.002

$R = .663$, $R^2 = .439$, Adjusted $R^2 = .435$, $F(3, 380) = 98.72$, $p < .001$

Table 2 above showed that Digital literacy $\beta = 0.33$, internet access $\beta = 0.26$, and lecturer responsiveness $\beta = 0.18$ significantly predicted effectiveness, explaining 43.9% of variance. The hypothesis raised is therefore rejected. This implies that Digital literacy, internet access, and lecturer responsiveness will predict effective electronic communication among EKSU students The study aligns with (Eshet-Alkalai 2023) that skills matter more than access, and with (Adeoye et al. 2024) on teacher presence reducing transactional distance.

Hypothesis 2: There is no significant difference in perceived effectiveness of electronic communication among EKSU students based on level of study.

Table 3: Analysis of Variance on Perceived Effectiveness by Level of Study

Level	N	Mean	SD	F	Sig p	Decision
100 Level	96	2.71	0.52	4.18	.006	Rejected
200 Level	98	2.89	0.48			

300 Level	94	3.05	0.45
400/500 Level	96	3.12	0.43

The table 3 above showed significant difference, $F(3, 380) = 4.18$, $p = 0.006$. Post-hoc Scheffe test revealed 400/500 level students had higher perception than 100 level. The hypothesis raised is therefore rejected. This implies that there is significant difference in perceived effectiveness of electronic communication among EKSU students based on level of study. Higher levels likely have better digital skills and experience, confirming TAM (Davis, 1989).

CONCLUSION

Based on the findings of the study, it was concluded that Electronic communication is central to academic life at EKSU. It improves access and flexibility but effectiveness depends on digital literacy, stable internet, and lecturer responsiveness. Synchronous rich media are best for academics, while WhatsApp dominates peer interaction despite lower academic clarity. The digital divide and netiquette issues remain major constraints.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. Ekiti State University Management should integrate Digital Citizenship and Netiquette into GST 101. Negotiate subsidized student data bundles with MTN, Glo, Airtel as done in some South African Universities World Bank, 2024.
2. Lecturers should undergo mandatory training on e-moderation, structured LMS use, and timely feedback to reduce over-reliance on WhatsApp Adeoye et al., 2024.
3. Students should participate in peer-led digital literacy workshops and use official channels for academic queries to avoid information overload.
4. IT Directorate should improve LMS bandwidth and mobile optimization. The Directorate should create one official departmental communication portal to consolidate announcements.

REFERENCES

1. Adegoke, B. & Adegoke, S. (2024). Smartphone penetration and student communication in Nigerian universities. *African Journal of Computing & ICT* 17(2), 88-102.
2. Adeoye, I. et al. (2024). Learning Management Systems and student engagement in Southwest Nigeria. *Journal of Educational Technology in Africa* 12(1), 45-60.
3. Castells, M. (2010). *The Rise of the Network Society*. 2nd ed. Wiley-Blackwell.
4. Daft, R. & Lengel, R. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571.
5. Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
6. Eshet-Alkalai, Y. (2023). Digital literacy: A conceptual framework for survival skills. *Journal of Educational Multimedia*, 15(2), 93-106.
7. Hargie, O. (2021). *Skilled Interpersonal Communication*_ 6th ed. Routledge.
8. Kumi-Yeboah, A. et al. (2023). Student perceptions of synchronous vs asynchronous learning in Ghana. *International Journal of E-Learning*, 22(3), 210-228.
9. NUC. (2022). *Guidelines for Open and Distance Learning in Nigerian Universities*. Abuja: NUC.
10. Nworgu, B. (2023). *Educational Research: Basic Issues & Methodology* 4th ed. University Trust Publishers.
11. Ogunyemi, A. & Bisiriyu, L. (2023). Challenges of e-learning among Nigerian university students post-COVID. *Nigerian Journal of Educational Research* 19(1), 33-48.

12. Owolabi, T. & Olaniyi, F. (2024). Netiquette and cyberbullying in university WhatsApp groups. *Journal of Communication and Media Research*, 16(1), 77-91.
13. Sweller, J. (2022). Cognitive load theory and instructional design. *Educational Psychology Review*, 34(1), 1-28.
14. UNESCO. (2023). *Global Education Monitoring Report: Technology in Education*. Paris: UNESCO.
15. World Bank. (2024). *Digital Development Report: Africa*. Washington DC: World Bank.