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Digital Literacy Skills and Instructional Resource Utilization among Agricultural Education Lecturers in Colleges of Education, Rivers State, Nigeria

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ABSTRACT

This study assessed the digital literacy skills of agricultural education lecturers and their utilization of instructional resources for effective curriculum delivery in Colleges of Education in Rivers State. A descriptive survey research design was adopted. The population comprised all full-time agricultural education lecturers across the two public tertiary institutions offering the program in the state: Federal College of Education (Technical), Omoku, and Ignatius Ajuru University of Education, Rumuolumeni. The researcher collected data using a structured questionnaire called the "Digital Literacy and Instructional Resource Utilization Questionnaire (DLIRUQ)," which was face and content validated by three independent experts. The reliability of the instrument was established using Cronbach's Alpha, yielding a coefficient of 0.84. Descriptive statistics (Mean and Standard Deviation) were used to answer the research questions, while the independent samples t-test and Pearson Product Moment Correlation (PPMC) were utilized to test the null hypotheses at a 0.05 level of significance. The findings reveal a significant positive relationship between lecturers' digital literacy competencies and their rate of instructional resource deployment. Based on the outcomes, the researcher recommends that the Rivers State Ministry of Education collaborate with institutional provosts to organize mandatory, discipline-specific ICT capacity-building workshops to bridge the pedagogical technology gap.

KEY WORDS: Agricultural Education, Digital Literacy Skills, Instructional Resources, Colleges of Education, Rivers State, Computer-Based Testing.

1. Introduction

To develop the economy of developing countries, agricultural education must equip individuals with scientific knowledge, pedagogical skills, and practical agricultural training methodologies (Osinem, 2008). In Nigeria, the primary mechanism for preparing professional teachers of agriculture is anchored within the Colleges of Education, structured under the minimum standards regulated by the National Commission for Colleges of Education [NCCE] (2020). These training institutions must produce competent graduates capable of teaching entrepreneurial skills in secondary and technical schools. However, modern agricultural practice has evolved from traditional manual work into a highly tech-driven enterprise. This development requires a corresponding pedagogical shift from traditional classroom dictation methods to digitally integrated teaching mechanics (Ifeanyieze & Ikehi, 2016). This shift is accelerated by global pressures to meet food safety benchmarks, making tech-driven classroom interventions a vital baseline for vocational training programs (Abdelaziz,Cheng & Wang, 2025).

To deliver the agricultural education curriculum effectively today, lecturers must systematically and deliberately integrate digital

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literacy skills into their daily teaching routines. In vocational education, digital literacy means more than just turning on a computer. It is the practical and cognitive ability to identify, evaluate, manipulate, and create educational content utilizing digital hardware, specialized agricultural simulation tools, virtual labs, and global agro-data systems (Adebayo, 2019). Empirical evidence by Zakari,Dahiru & Kefas (2026) indicates that specific sub-dimensions—such as photo-visual literacy and digital reproduction competence—serve as powerful positive predictors of an agricultural educator's performance. According to Ukoha and Ezenwa (2021), a lecturer's digital proficiency directly influences their capacity to expose students to precision farming concepts, automated agro-data analysis, and digital extension techniques. When lecturers possess robust digital skills, they can transform abstract agricultural concepts into interactive and practical learning experiences. Conversely, a lack of digital competence restricts the instructional environment, producing graduates who struggle to deploy simple web-based or data-driven extension models in real-world scenarios (Line ,Prihastomo & Tarfa, 2025).

Complementary to digital literacy is the optimal utilization of instructional resources, which constitute the core components of pedagogical delivery. Instructional resources refer to the complete array of physical, electronic, visual, and environmental materials deployed by educators to facilitate interactive learning (Olumorin et al., 2010). In agricultural education, these resources span beyond traditional textbooks and chalkboards to include modern ICT infrastructures such as multimedia interactive smartboards, electronic databases, geographic information system (GIS) tools, and specialized agricultural e-learning platforms (Egeru, Wasige & Osiruet , 2018). Practical evidence established by Amadi and Wells (2022) indicates that the physical presence of these resources in institutions does not automatically secure classroom quality; rather, it is the deliberate, frequent, and competent utilization of these tools by the faculty that drives student interest and mastery of vocational competencies. In studies examining wider technical tracks, investigators have constantly highlighted that while hardware elements like computer laboratories are sometimes moderately available on paper, they remain severely under-utilized in active classroom practice (Yusuf & Ajidagba, 2010; Adeogun, 2010). This situation is exacerbated when teachers fall back on safe, non-interactive teaching mechanics due to a fundamental mismatch between available technology and personal ease of use (Olumorin, 2013).

Geographically, Colleges of Education in Rivers State operate within a distinct socio-economic environment that demands urgent technological interventions in vocational training and food security. Despite institutional investments in information technology by successive state administrations and infrastructural interventions from agencies like the Tertiary Education Trust Fund (TETFund), direct observations indicate that the active classroom deployment of digital tools remains highly inconsistent. A practical and pressing example of this shifting technological demand is currently unfolding at the Federal College of Education (Technical), Omoku. The college administration recently mandated the migration to Computer-Based Testing (CBT) for the administration of all General Studies in Education (GSE) courses starting with the second-semester examinations. This mandatory policy directive has suddenly forced academic staff, including agricultural education lecturers, to directly interface with electronic testing portals, upload digital question banks, and manage electronic grading systems. However, a baseline mismatch persists because many faculty members who trained during the pre-digital era experience severe technological anxieties when confronted with such sudden institutional changes. Rather than seamlessly integrating these tools, many educators are caught off guard, highlighting a critical gap between administrative mandates and the actual digital readiness of the lecturers (Ananiadou & Claro, 2009).

While general studies across Nigeria have evaluated the broad impacts of ICT integration in general education (Koko, 2015; Agbulu, 2014), there exists a profound empirical scarcity focusing exclusively on the interaction between lecturers' digital capabilities and resource deployment specifically within the agricultural education discipline in Rivers State. It is against this critical gap in institutional pedagogy that this study is designed to assess the level of digital literacy skills possessed by lecturers and the extent of their utilization of instructional resources for effective agricultural education delivery in Colleges of Education in Rivers State.

1.1 Theoretical Underpinning

To understand the behavioral dynamics influencing technology adoption among educators, this study is anchored on the Technology Acceptance Model (TAM) originally developed by Davis (1989). TAM posits that an individual's behavioral intention to adopt and utilize a new technological innovation is primarily determined by two core cognitive beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). In the context of this study, Perceived Usefulness refers to the degree to which an agricultural education lecturer believes that integrating digital tools—such as electronic databases, virtual field simulations, or interactive smartboards—will enhance the efficiency and quality of their pedagogical delivery. Conversely, Perceived Ease of Use represents the extent to which the lecturer anticipates that interacting with these digital infrastructures will be relatively free of cognitive strain and technical difficulty. Perceived Ease of Use simply means how easy or difficult the lecturer thinks the smartboard or software will be to operate during a lesson.

Within the instructional framework of Colleges of Education in Rivers State, TAM provides an excellent diagnostic lens. If an agricultural lecturer perceives a digital instructional resource as too complex to operate (low PEOU) due to a personal deficit in foundational digital literacy skills, their behavioral intention to deploy that tool in the classroom will decrease, regardless of its institutional availability. This theoretical interplay is supported by the Diffusion of Innovations Theory (Rogers, 1995), which establishes that the rate at which an academic department adopts educational innovations depends heavily on the compatibility of the technology with the users' current skills and values. Therefore, assessing the baseline digital literacy levels of these lecturers is an essential prerequisite to understanding, predicting, and fixing the systemic under-utilization of modern instructional resources within vocational departments.

1.2 Statement of the Problem

A worrying gap persists between national policy expectations and the actual classroom realities within Colleges of Education in Rivers State. Anecdotal evidence and baseline academic observations suggest that many agricultural education classrooms still rely heavily on traditional, theoretical teaching methods. Despite the availability of some basic physical instructional facilities, the integration of modern digital tools appears to be severely limited. This pedagogical deficit is often attributed to an apparent deficit in the practical digital competencies of the teaching staff. Many lecturers may possess basic digital skills for word processing, yet they often lack the specialized digital literacy required to manipulate

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modern agricultural learning platforms or integrate e-resources into specialized modules. Furthermore, where digital resources are technically available, infrastructure issues like erratic power supply, lack of internet connectivity, and low technical support frequently hinder their active utilization. This issue is magnified by the sudden implementation of administrative mandates like the GSE Computer-Based Testing framework at FCE(T) Omoku, which causes technical friction for staff.

If this situation is left unaddressed, agricultural education departments will continue to graduate individuals who possess theoretical knowledge but lack the digital competencies demanded by modern, technology-driven agricultural industries. While previous studies have examined general ICT usage in education, there is a scarcity of focused, empirical data assessing the direct link between the digital literacy levels of agricultural lecturers and their actual deployment of instructional resources within Rivers State. Therefore, the problem of this study is to empirically evaluate the digital literacy skills of these lecturers and determine the extent to which they utilize instructional resources for effective agricultural education delivery in Colleges of Education in Rivers State.

1.3 Purpose of the Study

The primary purpose of this study is to assess lecturers' digital literacy skills and their utilization of instructional resources for effective agricultural education delivery in Colleges of Education in Rivers State. Specifically, the study seeks to:

1. Assess the level of digital literacy skills possessed by agricultural education lecturers in Colleges of Education in Rivers State.
2. Determine the extent to which agricultural education lecturers utilize digital instructional resources for classroom delivery.
3. Ascertain the relationship between lecturers' digital literacy levels and their frequency of instructional resource utilization.
4. Identify the challenges hindering agricultural education lecturers from effectively utilizing digital instructional resources in their institutions.

1.4 Research Questions

The following research questions were formulated to guide the study:

1. What is the level of digital literacy skills possessed by agricultural education lecturers in Colleges of Education in Rivers State?
2. To what extent do agricultural education lecturers utilize modern instructional resources for teaching and learning?
3. What is the nature of the relationship between the digital literacy levels of agricultural education lecturers and their utilization of available instructional resources?
4. What institutional and technical challenges hinder agricultural education lecturers from effectively utilizing digital instructional resources for classroom delivery?

1.5 Null Hypotheses (H_0)

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

H_{01}: There is no significant difference in the mean ratings of lecturers from Federal and State Colleges of Education in Rivers State regarding their level of digital literacy skills.

H_{02}: There is no significant difference in the mean ratings of male and female agricultural education lecturers regarding the extent to which they utilize digital instructional resources for classroom delivery.

H_{03}: There is no significant relationship between the level of digital literacy skills possessed by agricultural education lecturers and their utilization of instructional resources in Colleges of Education in Rivers State.

1.6 Significance of the Study

The findings of this study will be highly significant to the Rivers State Ministry of Education by providing ministry officials with an objective assessment of infrastructure gaps and technological skill levels to guide targeted budget allocations. Individual College Provosts and Management Teams will gain clear insights into technical bottlenecks, helping them implement practical internal policies such as mandatory ICT workshops. Agricultural Education Lecturers will benefit by utilizing the results as a self-assessment tool to improve their classroom delivery, while Students of Agricultural Education will ultimately graduate with the practical, technology-driven competencies demanded by modern competitive industries. Finally, future researchers can use this work as a reliable reference document for regional studies across the Niger Delta.

1.7 Scope of the Study

This study is strictly delimited to public tertiary institutions offering accredited agricultural education programmes at the Nigeria Certificate in Education (NCE) and undergraduate vocational levels within Rivers State, targeting the Federal College of Education (Technical), Omoku, and Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt. Conceptually, the study is bounded by the assessment of lecturers' digital capabilities and the evaluation of their active utilization of modern instructional resources. The respondent scope is strictly confined to all full-time academic staff (lecturers) currently teaching within the Departments of Agricultural Education in the sampled institutions.

2. Methodology

This study adopted a descriptive survey research design to evaluate the interaction between teacher competencies and instructional tool deployment without manipulating the institutional environment. The researcher physically visited the agricultural education departments at FCE(T) Omoku and IAUE to distribute the questionnaires. The target population consisted of all full-time academic staff (lecturers) actively teaching within the Departments of Agricultural Education across the two sampled institutions. Because the total number of specialized lecturers is relatively small, census sampling (complete enumeration) was utilized, enlisting the entire population of 34 respondents to eliminate sampling errors.

The primary instrument for data collection was a researcher-developed, structured questionnaire titled the "Digital Literacy and Instructional Resource Utilization Questionnaire (DLIRUQ)". The DLIRUQ was split into specific operational sections measured across four-point scales: Section A utilized Highly Proficient (4) to Not Proficient (1); Section B utilized Very High Extent (4) to Very Low Extent (1); and Section C utilized Strongly Agree (4) to Strongly Disagree (1). To establish face and content validity, the initial draft was reviewed by three independent experts from the Department of Vocational and Technical Education and the Department of Measurement and Evaluation within the sampled institutions. The reliability of the questionnaire was determined via a pilot test conducted on eight (8) vocational agricultural lecturers at

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the Akwa Ibom State College of Education, Afaha Nsit. Data from the pilot test analyzed using Cronbach's Alpha yielded an internal consistency coefficient of 0.84, confirming the instrument was highly stable for field deployment.

The questionnaires were physically distributed and retrieved by the researcher directly at the respondents' departmental offices on the 17th of August 2026. The retrieved quantitative data were compiled and analyzed using SPSS software. Mean and Standard Deviation were used to answer the descriptive research questions, where an item or cluster mean score of 2.50 or above was accepted as proficient/high extent/agree. For the inferential statistics, H_{01} and H_{02} were tested using the Independent Samples t-test, while H_{03} was analyzed using the Pearson Product Moment Correlation (PPMC) coefficient (r), all calculated at a 0.05 level of significance.

3. Results and Discussion

3.1 Descriptive Data Analysis Matrix

Table 1: Research Question 1 - Level of digital literacy skills possessed by agricultural education lecturers

S/N	Item Statement	Mean ($\bar{X}$)	SD	Remark
1	Use basic word processing applications (e.g., MS Word, Google Docs)...	3.41	0.52	Proficient
2	Utilize spreadsheet tools (e.g., MS Excel) to calculate grades...	2.85	0.61	Proficient
3	Design multi-media slide presentations (e.g., PowerPoint)...	2.62	0.74	Proficient
4	Access and navigate online academic repositories (e.g., AJOL)...	2.21	0.81	Not Proficient
5	Operate specialized digital agricultural tools or simulation software...	1.84	0.65	Not Proficient
6	Set up and manage virtual classroom platforms (e.g., Google Classroom)...	2.03	0.78	Not Proficient
	Cluster Mean & Standard Deviation	**2.49**	**0.69**	**Not Proficient**

Table 2: Research Question 2 - Extent to which lecturers utilize modern instructional resources

S/N	Item Statement	Mean ($\bar{X}$)	SD	Remark
7	Fixed or mobile multimedia projectors during agricultural lectures...	2.15	0.72	Low Extent
8	Institutional internet facilities and Wi-Fi networks...	1.62	0.54	Low Extent
9	Electronic courseware, e-textbooks, and digital modules...	2.74	0.63	High Extent
10	Smartboards or interactive screens to illustrate layouts...	1.41	0.49	Low Extent
11	Virtual laboratories or educational videos for practicals...	1.94	0.71	Low Extent
12	Digital communication channels (e.g., WhatsApp class groups)...	3.12	0.58	High Extent
	Cluster Mean & Standard Deviation	**2.16**	**0.61**	**Low Extent**

Table 3: Research Question 4 - Institutional and technical challenges hindering agricultural education lecturers

S/N	Item Statement	Mean ($\bar{X}$)	SD	Remark
13	Erratic electrical power supply within classrooms and labs...	3.76	0.44	Agree (Major)
14	Absolute lack of or unreliable institutional internet connectivity...	3.68	0.47	Agree (Major)
15	Insufficient number of functional digital hardware components...	3.24	0.62	Agree
16	Inadequate technical support staff or maintenance routines...	3.15	0.69	Agree

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17	Heavy academic workloads and limited lecture hours...	2.82	0.73	Agree
18	Lack of sponsored continuous professional ICT workshops...	3.53	0.51	Agree (Major)
19	Sudden institutional migration to CBT for GSE courses...	3.44	0.55	Agree (Major)
	Cluster Mean & Standard Deviation	**3.37**	**0.57**	**Significant**

3.2 Inferential Statistics (Hypothesis Testing) Matrix

Table 4: Hypothesis 1 Independent Samples t-test (Federal vs State Digital Literacy)

Group	N	$\bar{X}$	SD	Df	t-value	p-value	Decision
FCE(T) Omoku	18	2.54	0.65	32	0.431	0.669	Retain H_{01}
IAUE (State)	16	2.44	0.73				(No Sig Diff)

Table 5: Hypothesis 2 Independent Samples t-test (Gender vs Resource Utilization)

Group	N	$\bar{X}$	SD	Df	t-value	p-value	Decision
Male Lecturers	20	2.18	0.59	32	0.194	0.847	Retain H_{02}
Female Lecturers	14	2.14	0.64				(No Sig Diff)

Table 6: Hypothesis 3 Pearson Product Moment Correlation Matrix

Variables	N	Pearson r	p-value	Strength	Decision
Digital Literacy vs Resource Utilization	34	0.714*	0.000	Strong Positive	Reject H_{03}

3.3 Discussion of Findings

The descriptive analysis for Research Question 1 revealed a cluster mean of 2.49, which falls slightly below the established 2.50 threshold. This statistically classifies the agricultural education lecturers across the sampled institutions as Not Proficient in overall digital literacy. Lecturers demonstrated strong proficiency in using conventional word processing applications ($\bar{X}$ = 3.41) and managing basic spreadsheets ($\bar{X}$ = 2.85). However, their scores dropped significantly when evaluating advanced digital technical tracks. Critical skills required for contemporary scholarship and agricultural delivery—such as navigating online academic repositories like AJOL ($\bar{X}$ = 2.21), manipulating specialized agricultural simulation software ($\bar{X}$ = 1.84), and configuring virtual learning platforms ($\bar{X}$ = 2.03)—were found to be severely deficient. This outcome strongly corroborates the studies of Adebayo (2019), who observed that while technical vocational faculty members in Nigeria frequently possess fundamental literacy skills for word processing, they consistently exhibit deficits in specialized software applications required to manipulate electronic learning tools. This data also aligns with warnings from Ukoha and Ezenwa (2021), who stated that a deficiency in advanced digital communication and information retrieval systems among Niger Delta educators limits their capacity to expose undergraduate students to precision farming and digital extension frameworks.

The descriptive results for Research Question 2 yielded a cluster mean score of 2.16, indicating a Low Extent of instructional resource utilization. The data indicates that while lecturers frequently use basic digital communication tools like WhatsApp class groups ($\bar{X}$ = 3.12) and distribute electronic text documents ($\bar{X}$ = 2.74), they rarely deploy interactive or hardware-intensive teaching aids. The utilization of multimedia projectors ($\bar{X}$ = 2.15), institutional Wi-Fi networks ($\bar{X}$ = 1.62), and interactive smartboards ($\bar{X}$ = 1.41) remains critically low. This trend mirrors the structural observations of Amadi and Wells (2022), who investigated resource deployment in Rivers State and concluded that the physical presence of tech infrastructures via interventions like TETFund does not automatically secure classroom integration. Instead, tools remain stored away or un-utilized due to baseline technical challenges or personal technological anxiety, a behavioral pattern previously documented by Olumorin (2013) and Yusuf and Ajidagba (2010) across related technical teacher-training frameworks.

The results for Research Question 4 clearly identify severe systemic barriers with a high cluster mean score of 3.37. The primary problems agreed upon by the respondents include erratic institutional electrical power supply ($\bar{X}$ = 3.76) and an absolute lack of reliable internet connectivity ($\bar{X}$ = 3.68). Crucially, Item 19, which evaluated the technical friction caused by the sudden institutional migration to Computer-Based Testing (CBT) for GSE courses at FCE(T) Omoku, scored a high mean of 3.44, indicating major agreement. This high score happens because many lecturers only use computers to type exam questions rather than managing broader digital testing platforms or software systems. These high mean scores reflect the physical field realities documented by

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Asimiea and George (2023) in their structural tracking of vocational departments in Rivers State. When basic utilities like electricity and internet are unstable, lecturers naturally fall back on traditional lecture methodologies (Olumorin et al., 2010). Furthermore, the lack of continuous, specialized training prevents faculty from upgrading their skills, forcing them to remain within comfortable, pre-digital instructional patterns.

The testing of the null hypotheses provides the necessary statistical foundation for this study's conclusions. For Hypothesis 1, the Independent Samples t-test revealed no significant difference in the digital literacy levels between lecturers at FCE(T) Omoku and IAUE ($p = 0.669 > 0.05$). Similarly, Hypothesis 2 showed no significant difference based on gender ($p = 0.847 > 0.05$). These results indicate that institutional ownership structure (Federal vs. State) and gender lines do not change the digital capacity of faculty members; the technological skill deficit is an overarching institutional issue affecting all educators uniformly. Most critically, Hypothesis 3 was rejected due to a strong, statistically significant positive correlation ($r = 0.714$, $p = 0.000 < 0.05$) between a lecturer's digital literacy level and their rate of instructional resource utilization. This finding provides empirical support for the Technology Acceptance Model (TAM) by Davis (1989). It proves that a lecturer's internal digital capability directly dictates their perception of a tool's ease of use. As digital literacy increases, technological anxieties disappear, causing a direct, predictable increase in the active utilization of modern instructional resources within the classroom. This relationship aligns with the empirical observations of Zakari et al. (2026), who established that improving an educator's technical literacy sub-dimensions serves as a powerful, positive predictor of actual tool deployment in Nigerian agricultural classrooms.

4. Conclusion & Recommendations

4.1 Conclusion

Based on the empirical findings, this study concludes that agricultural education lecturers in Colleges of Education in Rivers State possess basic computing competencies but lack the advanced digital literacy required for modern vocational delivery. Consequently, active utilization of modern, interactive instructional resources remains low, keeping classroom instructions grounded in traditional, theoretical teaching frameworks. The study confirms that a lecturer's technological capability directly dictates their classroom behavior: higher digital literacy acts as a powerful driver for the active deployment of modern learning tools. The newly introduced CBT examination models for GSE courses prove that administrative shifts force technological contact, but without corresponding training, they trigger immense pedagogical friction. Until systemic institutional barriers—specifically erratic power supply, lack of internet access, and a lack of targeted professional training—are fixed, the integration of technology into the agricultural education curriculum will remain stalled.

4.2 Recommendations

1. Implement Targeted, Discipline-Specific ICT Training: The Rivers State Ministry of Education, in direct collaboration with the institutional provosts of FCE(T) Omoku and IAUE, should organize mandatory, routine professional development workshops. Rather than generic computer appreciation courses, these training tracks must focus explicitly on utilizing digital agricultural tools, virtual laboratories, electronic data systems, and exam deployment software.
2. Prioritize Departmental Infrastructure Updates: College management boards must strategically deploy internal capital and external intervention funds (such as TETFund) to isolate agricultural education classrooms and laboratories from broader institutional outages. This includes installing dedicated solar-powered inverter units and high-speed, localized Wi-Fi networks directly inside vocational departments to ensure stable access to digital learning tools.
3. Establish Technical Support Frameworks: Institutional administrators should embed dedicated technical support teams directly within vocational and technical education faculties. These personnel will handle routine maintenance of interactive smartboards, digital hardware components, and online CBT software platforms, reducing setup times and technical friction for lecturers during active hours.

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Appendix: Data Collection Instrument

Digital Literacy and Instructional Resource Utilization Questionnaire (DLIRUQ)

Section A: Digital Literacy Skills of Lecturers

Scale: Highly Proficient (HP = 4), Proficient (P = 3), Moderately Proficient (MP = 2), Not Proficient (NP = 1)

S/N	Item Statement: I can effectively...	HP (4)	P (3)	MP (2)	NP (1)
1	Use basic word processing applications (e.g., MS Word, Google Docs) to type, format, and organize agricultural lesson plans.				
2	Utilize spreadsheet tools (e.g., MS Excel) to input, calculate, and analyze student continuous assessment and exam grades.				
3	Design multi-media slide presentations (e.g., PowerPoint) incorporating images and charts to explain complex agricultural concepts.				
4	Access and navigate online academic repositories (e.g., AJOL, Google Scholar) to retrieve current research papers for teaching.				
5	Operate specialized digital agricultural tools or simulation software (e.g., farm management systems, virtual mapping software).				
6	Set up and manage virtual classroom platforms (e.g., Google Classroom, Zoom) to interact with students outside physical lecture halls.				

Section B: Utilization of Instructional Resources

Scale: Very High Extent (VHE = 4), High Extent (HE = 3), Low Extent (LE = 2), Very Low Extent (VLE = 1)

S/N	Item Statement: In my teaching, I utilize...	VHE (4)	HE (3)	LE (2)	VLE (1)
7	Fixed or mobile multimedia projectors to project visual instructional materials during agricultural lectures.				

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8	Institutional internet facilities and Wi-Fi networks to demonstrate live online agricultural databases during lessons.				
9	Electronic courseware, e-textbooks, and digital modules to supplement traditional printed instructional manuals.				
10	Smartboards or interactive screens where available to illustrate agricultural cycles, anatomical structures, or farm layouts.				
11	Virtual laboratories or educational videos to demonstrate practical agricultural procedures that cannot be physically done on campus.				
12	Digital communication channels (e.g., institutional email, dedicated class groups) to distribute instructional resources to students.				

Section C: Challenges Hindering the Utilization of Digital Resources

Scale: Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2), Strongly Disagree (SD = 1)

S/N	Item Statement: A major challenge I face is...	SA (4)	A (3)	D (2)	SD (1)
13	Erratic electrical power supply within the classrooms and laboratories, making it difficult to sustain the use of electronic tools.				
14	Absolute lack of or unreliable institutional internet connectivity (Wi-Fi) across the agricultural department.				
15	Insufficient number of functional digital hardware components (e.g., working multimedia projectors, smart screens) relative to class sizes.				
16	Inadequate technical support staff or institutional maintenance routines to fix malfunctioning digital learning platforms.				
17	Heavy academic workloads and limited lecture hours, leaving insufficient time to set up and navigate digital teaching systems.				
18	Lack of sponsored, institutional sponsorship for continuous professional ICT workshops specifically tailored to vocational/agricultural lecturers.				
19	The sudden institutional migration to Computer-Based Testing (CBT) for GSE courses which creates technical friction due to my limited training on exam software.				

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