Availability and Utilization of Information and Communication Technology for the Teaching and Learning Business Education Programme

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ABSTRACT

This study aimed to investigate the availability, utilization, and challenges associated with Information and Communication Technology (ICT) resources in the teaching and learning of Business Education at government-owned Colleges of Education in Delta State, Nigeria. Adopting a descriptive survey research design, the study collected data from a sample of 83 respondents, including both lecturers and students, selected using stratified random sampling from a population of 275. Data were gathered through a structured questionnaire divided into three sections: demographic information, ICT availability, ICT utilization, and challenges in ICT use. The findings revealed that, on average, ICT resources were available for teaching Business Education, with key resources such as computers and office software being highly available. However, the extent of ICT utilization was moderate, with lecturers and students making use of ICT primarily for presentations, research, and administrative tasks. Challenges in ICT utilization included poor power supply, inadequate ICT infrastructure, lack of technical support, insufficient internet connectivity, and resistance from some lecturers in adopting ICT tools. The study also highlighted the lack of proper training for lecturers and students' limited ICT skills as significant barriers to effective ICT use. The data were analysed using descriptive statistics, with the results indicating that the availability of ICT resources was generally favourable, but their utilization was limited by several challenges. The study concludes that while ICT resources are available, their effective use is hindered by infrastructure and training gaps, suggesting the need for improved professional development for lecturers, enhanced technical support, and better ICT infrastructure. The research contributes to understanding the current state of ICT in Business Education and provides a foundation for policy recommendations aimed at improving the integration of technology in education.

Keywords: Utilization, Information & Communication Technology, Teaching and Learning, Students, Business Education, Programme, Growth

1. INTRODUCTION

Information and Communications Technology (ICT) is a technology trend that has brought the world into a global village. It is a slogan in media and telecommunications, which have revolutionized the economy, business, industry, politics and education. Information and Communications Technology uses various information superhighways namely: The Internet, intranet and extranet to function. The ICT is a science of information, which uses the computer, and multi- electronic resources to collect, process, store, retrieve and transmit or disseminate information to any part of the world. ICT has permeated virtually all aspects of human endeavour. It has crept into the educational system and has had obvious impact in the curriculum. ICT has been considered a priority in global education and Nigeria is not left out. The Federal government of Nigeria in the National Policy on Education (FRN, Revised 2014) recognizes ICT as a product of technological change and as an innovation in education. The main purpose was for acquisition of computer literacy and computer skills that are needed in all facets of human life in the 21st century.

The availability and utilization of information and communication technology would develop teachers and students' business ability, concept and attitude. Well written instructional packages to complement the efforts of business teachers and students, especially the poorly skilled/equipped students to develop effective business attitudes and concepts are achievable through ICT. Effective teaching and learning of Business education depends on the availability and organization of materials, equipment, media and technology (Akpan, 2003) Information and communication Technology would enhance the teaching of business concepts to the learner at every corner of the globe. However, it is uncertain if the tertiary institutions in Enugu state are utilizing ICT resources effectively to enhance teaching and learning ability of Business education students.

The curriculum as developed by NERDC includes the introduction of basic technology, ICT, computer education and emphasis on creative thinking among others. Obioma (2007) pointed out that, the new curriculum is ICT – driven with emphasis on practical, concrete and hands – on experiences. More so, Ololube (2006) and Nwana (2009) remarked that both the teachers and the students should achieve better curriculum outcomes with the use of ICT resources. Agbamu (2004) considered information and communication technology to be the use of electronic computers and computer software to convert, store, process and transmit vocal, pictorial, textural and numerical information. Rodriguez and Wilson (as cited in Onah, et al, 2016) defined ICT as the set of activities /materials which is facilitated by electronics means for the processing, transmission and display of information.

ICT also refers to the technologies people use to share, distribute, and gather information and to communicate through computer networks. Akuyi (as cited in Onah et al 2016) defined ICT as the ability to use electronic means to capture, process, store and communicate information. According to Guma, Faruque and Khushi (as cited in Bittrus et al 2016) noted that the integration of ICT in teaching and learning processes is one of the most practical. The need for availability and utilization of ICT resources in teaching –learning situations is on the increase.

The government has made effort towards the building of ICT resources and procurement of ICT resources for various schools and colleges. For instance, during Governor Peter Obi's administration in Anambra State, computer and its accessories were procured in large quantities and presented to schools. Further, teachers were sent on short-term computer courses. Still, they are being challenged in the use of ICT resources in teaching Business education as a subject of study. It is against this backdrop that the present study seeks to find out the range of ICT resources available for the teaching of Business education in colleges of education, also to determine the utilization of ICT resources by teachers in the teaching of Business Education.

2. THE RESEARCH FOCUS

Statement of the problem

Business Education teachers are expected to integrate information and communication technology in the teaching and learning process. They ought to use ICT resources like Microsoft word, excel, power point, projectors, computers, and among others so that it can support instruction and enable learners to use ICT resources as important tools to meet their information and learning needs. However, this expectation has not been achieved among the tertiary institutions where Business education courses are taught in Enugu State. Consequently, in some tertiary institutions, ICT resources like educational transmitters, smart board, ICT laboratory, digital library, and among others are not available to be made use of in teaching Business Education courses, whereas, in most cases where some of the ICT resources like photocopying machines, projector, microphone, laptops, and among others are available, they are not adequately utilized by the lecturers for teaching and learning of Business Education courses, thereby preventing the students from learning how to make proper use of those facilities.

Hence most of the Business Education graduates are not well equipped with the ICT skills expected of them. Consequently, the students after graduation will may not be gainfully employed and even when they get employment, their productivity will be very low. It is against this backdrop the research engaged in this study to investigate the availability and utilization of Information and Communication Technology (ICT) in Teaching and Learning of Business Education has been examined in this study.

Purpose of the Study
The purpose of the study was to determine the availability and utilization of Information and Communication Technology (ICT) in teaching and learning of Business education in government owned Colleges of Education in Enugu State, Nigeria. Specifically, the study sought to;
1. ascertain the ICT resources available for teaching and learning of Business education courses in government owned colleges of education in Delta State;
2. determine the extent to which ICT resources are utilized by Business education lecturers in teaching of Business education courses in government owned colleges of education in Delta State.
3. Identify the hindrances to effective the utilization of ICT resources in teaching and learning Business education courses in government owned colleges of education in Delta State.

Research Questions

The following research questions were formulated for this study:
1. What are the information and communication technology (ICT) resources available for teaching and learning of Business education courses in government owned colleges of education in Delta State.?
2. To what extents are information and communication technology (ICT) resources utilized in teaching and learning of Business education courses? in government owned colleges of education in Delta State.?
3. What are the challenges in the utilization of ICT resources in teaching and learning of Business education program government owned colleges of education in Delta State.?

3. RESEARCH METHODOLOGY

This study employed a descriptive survey research design to investigate the availability and utilization of ICT resources in business education programs across three Colleges of Education in Delta State, Nigeria. The target population included 275 respondents (lecturers and students), with a sample of 83 individuals selected using stratified random sampling. The data collection was carried out using a structured questionnaire, which was divided into two sections: demographic details and the main research questions related to ICT resources.

The questionnaire was validated by experts, and reliability was established through a pilot test, yielding a Cronbach's alpha coefficient of 0.80. The data analysis involved descriptive statistics such as frequency counts, percentages, and weighted mean scores. Research questions were analyzed based on predefined thresholds, with scores of 2.50 or above indicating agreement on the availability, extent of utilization, and challenges related to ICT resources in business education. SPSS software was used for the statistical analysis.

4. RESULTS

The results obtained were used in discussions and a summary of the findings.

Data Presentation

Research Question One
What are the information and communication technology (ICT) resources available for teaching and learning of Business education courses in government owned colleges of education in Delta State.?

Table 1: Mean and Standard Deviation on the ICT resources available for teaching Business Education

S/N	Statement	N	X	S.D	Remark
1	Computers (desktop/laptop)	83	4.00	.000	A
2	Projectors	83	2.11	1.093	NA
3	Interactive Whiteboards	83	2.81	1.234	A
4	Printers	83	3.35	1.152	NA
5	Audio-visual equipment (e.g., microphones, speakers)	83	3.02	1.414	A
6	Internet Access (Wi-Fi/LAN)	83	2.63	1.266	A
7	E-learning platforms (e.g., Moodle, Google Classroom)	83	3.17	1.238	A
8	Accounting software (e.g., QuickBooks, Tally)	83	2.28	1.382	NA
9	Office software (e.g., Microsoft Office Suite)	83	3.35	1.152	A
10	Digital projectors (overhead projectors)	83	2.66	1.476	A
11	Scanners	83	2.95	1.125	A
12	Smartboards	83	2.81	1.234	A
13	Video conferencing tools (e.g., Zoom, Skype)	83	2.01	1.076	NA
14	Mobile devices (e.g., smartphones, tablets)	83	2.57	1.345	A
15	Library Management Software	83	2.28	1.328	NA
	Grand Mean		2.8		A

Available (A), Not Available (NA)

Table 1 shows that the grand mean score of 2.8 indicates a general availability of ICT resources for teaching Business Education in government-owned colleges in Delta State, with some disparities in specific resources. Highly available tools include computers (mean = 4.00), office software (mean = 3.35), and printers (mean = 3.35).

Moderately available resources include audio-visual equipment (mean = 3.02) and e-learning platforms (mean = 3.17). However, resources like projectors (mean = 2.11), video conferencing tools (mean = 2.01), and accounting software (mean = 2.28) are poorly available, highlighting the need for more investment in advanced educational technologies.

Research Question Two
To what extents are information and communication technology (ICT) resources utilized in teaching and learning of Business education courses? in government owned colleges of education in Delta State.?

Table 2: Mean and Standard Deviation on the extent ICT resources are utilized in teaching and learning Business Education

S/N	Statement	N	X	S.D	Remark
16	ICT is used for presentations in Business Education classrooms	83	3.10	.850	LE
17	Students regularly use computers and internet for research and assignments	83	3.19	.594	LE
18	E-learning platforms are frequently used for learning and teaching	83	2.66	.686	LE
19	Accounting software is frequently utilized in teaching practical courses	83	1.89	.856	SE
20	Video conferencing tools (e.g., Zoom) are regularly used for lectures and discussions	83	1.84	.969	SE
21	ICT tools are used for conducting assessments and exams	83	2.42	1.001	SE
22	ICT resources are used for administrative tasks (e.g., student registration)	83	3.45	.830	LE
23	Mobile devices are utilized for learning and accessing course materials	83	3.08	.940	LE
	Grand Mean		**2.70**		**LE**

Large Extent (LE) , Small Extent (SE)

Table 2, revealed that ICT resources are utilized to a large extent in teaching and learning Business Education in government-owned colleges of education in Delta State, with a grand mean of 2.70. ICT is significantly integrated into tasks such as classroom presentations, administrative activities, and student research and assignments. Mobile devices are also frequently used for learning and accessing course materials. However, certain tools, including accounting software, video conferencing platforms, and ICT-based assessment systems, are utilized to a small extent. These findings indicate that while foundational ICT applications are well-integrated, specialized and innovative ICT uses remain limited.

Research Question Three
What are the challenges in the utilization of ICT resources in teaching and learning of Business education program government owned colleges of education in Delta State.?

Table 3: Mean and Standard Deviation on the challenges in the utilization of ICT resources for teaching Business Education

S/N	Statement	N	X	S.D	Remark
24	Poor power supply affects the use of ICT resources in teaching and learning	83	3.08	.940	Agree
25	Lack of proper training for lecturers hinders the effective use of ICT	83	3.88	.328	Agree
26	Insufficient internet connectivity is a major challenge in utilizing ICT	83	3.41	.716	Agree
27	Inadequate ICT infrastructure (e.g., outdated computers) limits teaching and learning	83	3.34	.979	Agree
28	High cost of ICT resources is a challenge in procuring ICT tools	83	2.76	1.007	Agree
29	Lack of technical support for ICT tools in the institution is a challenge	83	3.54	.754	Agree
30	Resistance from lecturers to adopt ICT in teaching is a challenge	83	3.02	1.012	Agree
31	Students' lack of ICT skills is a challenge to utilizing ICT resources	83	2.47	.980	Agree
	Grand Mean		3.20		Agree

Table 3 identifies challenges in utilizing ICT resources for teaching Business Education in government-owned colleges in Delta State, with a grand mean score of 3.20 indicating general agreement on these issues. Key challenges include insufficient lecturer training (mean = 3.88), lack of technical support (mean = 3.54), poor power supply (mean = 3.08), inadequate ICT infrastructure (mean = 3.34), and insufficient internet connectivity (mean = 3.41). Other issues include financial constraints (mean = 2.76), resistance to ICT adoption (mean = 3.02), and students' lack of ICT skills (mean = 2.47). These challenges highlight the need for improved training, support, and infrastructure to enhance ICT integration in Business Education.

6. DISCUSSION OF FINDINGS

The findings in table 1, suggest that while foundational ICT resources are accessible, there is a significant need to improve the availability of advanced and specialized tools. The lack of projectors, accounting software, and video conferencing tools limits interactive and specialized learning opportunities, crucial for equipping students with 21st-century skills (World Bank, 2021).

Furthermore, inconsistent access to internet facilities hampers the adoption of e-learning platforms, which became especially critical during the COVID-19 pandemic (United Nations, 2020). Findings in table 2, revealed that ICT resources are predominantly used for routine educational tasks, such as classroom presentations, administrative activities, and student research and assignments. Mobile technologies also play a vital role in facilitating learning. However, the findings indicate underutilization of specialized ICT tools, such as accounting software and video conferencing platforms, which limits opportunities for practical skill development and collaborative learning. Additionally, ICT-based assessments are minimally adopted, underscoring the need for modernization in evaluation practices.

The effective use of foundational ICT resources aligns with global trends that prioritize digital literacy and flexible learning environments (UNESCO, 2019; OECD, 2020). Nevertheless, the limited application of advanced tools, such as accounting software, reflects a critical gap in preparing students for the workforce, particularly in specialized fields (Audu et al., 2020). Addressing these challenges requires investments in ICT infrastructure and educator training, enabling better integration of advanced tools into teaching practices (World Bank, 2021; United Nations, 2020). Enhancing the use of ICT in these areas will significantly improve the quality of Business Education and ensure students are equipped for a technology-driven future.

The findings in table 3, align with previous research on ICT adoption in educational institutions, particularly in developing countries. The lack of proper training for lecturers is a recurring issue highlighted by Audu et al. (2020), who note that many educators in Nigeria face challenges in adapting to new technological tools due to insufficient training and support. Similarly, the lack of technical support, poor power supply, and insufficient internet connectivity have been widely acknowledged as major barriers to the effective use of ICT in education (UNESCO, 2019; World Bank, 2021). The resistance from lecturers to adopt ICT, while not as significant as other challenges, is nonetheless important.

According to OECD (2020), resistance to technological change is often rooted in a lack of digital literacy and fear of disrupting established teaching practices. This suggests that targeted training and creating a culture that encourages the use of ICT in teaching may help reduce such resistance. Moreover, the financial constraints faced by many institutions in acquiring ICT resources, as indicated by the high cost of ICT tools, mirror the concerns raised by the United Nations (2020), which emphasizes the financial challenges that schools face in providing the necessary resources for digital education. This underscores the need for greater investment in ICT infrastructure to ensure that schools are not left behind in the digital age.

6. CONCLUSION

This study explored the availability, utilization, and challenges of Information and Communication Technology (ICT) resources in the teaching and learning of Business Education in government-owned colleges of education in Delta State. The findings revealed that while basic ICT resources, such as computers, mobile devices, and office software, are widely available and utilized to a large extent, challenges remain in integrating advanced ICT tools like accounting software, video conferencing platforms, and digital assessment tools. Moreover, ICT usage for administrative tasks is notably limited. The study revealed several critical challenges in the utilization of ICT resources for teaching and learning in Business Education at government-owned colleges of education in Delta State. These challenges include insufficient training for lecturers, lack of technical support, inadequate ICT infrastructure, poor power supply, and insufficient internet connectivity.

7. RECOMMENDATIONS

Based on the findings, the following recommendations are proposed:
1. Government-owned colleges of education should prioritize investments in reliable internet access, uninterrupted power supply, and modern ICT hardware to support teaching and learning activities.
2. Comprehensive and ongoing training programs for educators should be introduced to enhance their proficiency in using specialized ICT tools, including accounting software, e-learning platforms, and video conferencing tools.
3. Educational institutions should develop and implement strategic ICT policies to guide the effective integration of ICT into both teaching and administrative processes. These policies should address the current challenges and promote the adoption of digital learning tools.
4. Colleges should expand the use of ICT for administrative purposes, such as student registration and record-keeping, to streamline operations and reduce the burden on administrative staff.
5. To address the challenge of poor power supply, institutions should explore alternative energy sources, such as solar power, to ensure a consistent power supply for ICT usage in the classroom.
6. Improving internet connectivity within the institutions is essential. Schools should partner with internet service providers to ensure stable and reliable access to the internet, facilitating online learning and research.
7. Institutions should offer training programs to students to enhance their ICT skills, ensuring that they can effectively use digital tools for learning, research, and assignments.

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