

AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES IN COLLEGES OF EDUCATION LIBRARIES IN KANO STATE

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Abstract

This study investigated the availability and utilization of Information and Communication Technology facilities in colleges of education libraries in Kano state. A purposive sampling techniques was used to select two conventional colleges of education while a simple random sampling technique was used to select 286 lecturers. The instrument used for data collection is a questionnaire titled: Lecturers and the Utilization of Available Information and Communication Technology Facilities. The reliability rating of the instrument was determined using Cronbach's Alpha, yielding a reliability coefficient of 0.79. Data were analyzed using descriptive analysis such frequency counts, percentages and a mean set value of 2.0, which was derived from the scales used to answer the research questions formulated to guide the study. The findings of the study showed that a good number of ICT facilities needed for instructional purposes are available in the Colleges of Education libraries in Kano state and there is a low level of ICT facilities utilization among lecturers in Colleges of Education in Kano state. The study concluded with recommendations such as school administrators and stakeholders should encourage utilization of ICT facilities in schools by providing adequate training to teachers and library staff.

Keywords: Information and Communication Technology, libraries, teacher education

Introduction

Teacher education is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. In Nigeria, both pre- and in-service teacher education programmes are offered by different teacher education institutions which include the colleges of education mandated to train and produce quality teachers for the Basic Education sub-sector (FGN, 2024). The concept "Library" is said to have originated from the Latin word "liber" which stands for a book. The library is commonly understood as a place where books are written and kept. This term is also commonly used as a "collection of books" and a librarian as a keeper or safe guarder of books. This word has taken centuries to become central point of all social actions and has got recognition as a social institution. The role of libraries in an educational system cannot be overemphasized as no educational or academic institution can survive without it. Every society requires an effective educational system. Without libraries there can neither be any good school, college or university nor can life-long education of adults be encouraged. It is believed that where formal education ends, informal education begins and a life-long learning process is sustained with the support of an adequate and proper library and information system. Information and Communication Technology (ICT) has also become an essential tool across various fields, including business, industry, healthcare, government, and education globally. According to Amosa, Ogunlade, and Obielodan (2016), the use of ICT tools for instructional purposes represents the application of innovative technologies to enhance the teaching-learning process. Alassaf (2014) found

that lecturers have a positive attitude toward using ICT for instructional purposes, which can be attributed to the availability of ICT resources, their awareness of its potential, and their basic ICT skills.

Ojeniyi and Adetimirin (2013) describe ICT as the means of accessing, storing, processing, and transmitting information using computers and other communication tools. The widespread adoption of ICT has revolutionized education by shifting teaching methods from traditional, teacher-centered approaches to more learner-centered techniques. ICT has contributed significantly to improving teaching and learning, facilitating the sharing of information, creating learner-focused environments, and supporting pedagogical advancements. Additionally, ICT equips teachers with the skills necessary to meet the demands of the 21st century. Broadly, ICT encompasses any technological innovation that simplifies task management and brings people together (Eseyin, Igoni & Uchendu, 2014).

It has also enhanced information flow in education, transforming both individual and societal learning needs, and increasing the demand for specialized knowledge (Peter, Udo and Akpan, 2012). The integration of ICT into education has transformed teaching and learning methods, particularly in higher institutions (Achimugu, Oluwagbemi & Oluwaranti, 2010). ICT includes hardware, software, telecommunications, and other tools essential for information processing within computer-based systems (Iwu, Onoja, Ijioma & Oguwuike, 2012). Okwudiri (2012) described ICT as a combination of technologies like radios, mobile phones, satellite systems, and computer networks that facilitate communication and information sharing. This suggests that ICT can be viewed as an electronic tool used for accessing, processing, and communicating information regardless of time or location, with the added benefits of speed and cost-efficiency.

Statement of the Problem

Despite the critical role Information and Communication Technology (ICT) plays in enhancing the teaching and learning process, its availability and effective utilization in educational institutions, particularly in colleges of education library, remains limited. Studies (Enyi & Tah; Agber & Agwu 2013; Samuel & Abubakar, 2006) have shown that while ICT has the potential to transform traditional teaching methods into more learner-centered approaches, many lecturers in colleges of education lack access to ICT resources, as well as the necessary skills and motivation to use them effectively. These studies have also revealed significant gaps in the availability and utilization of ICT tools for instruction, which hinders the full integration of these technologies into the teaching process. This issue is particularly evident in colleges of education libraries, where teacher educators struggle with limited ICT proficiency and inadequate resources, thus preventing them from leveraging ICT for effective instructional delivery. Given these challenges, it is crucial to investigate the extent of ICT availability, accessibility, and usage by teacher educators in colleges of education libraries, particularly in Kano State, Nigeria. Addressing these gaps is essential for improving instructional quality and ensuring that teacher educators meet the demands of modern education in a technology-driven world. This study, therefore, investigated the availability and utilization of ICT facilities for instructional purposes in the Colleges of Education Libraries in Kano State, Nigeria.

Review of Related Empirical Studies

Adizetu, Nwafor and Onoh (2021) investigated the availability and utilization of ICT facilities for teaching and learning of library and information science (LIS) undergraduate programme in universities in south-south, Nigeria. It was discovered that the six universities investigated, all had internet connectivity, computers, local area network (LAN), mobile phones, standby generator and uninterrupted power supply (UPS). Other ICT facilities like projectors, radio set and stylus pen were totally not available in these universities. Hiring ICT experts outside the school system to give informal lecturers to lecturers and students, allotting enough time for ICT practice, Provision of adequate number of ICT facilities for regular practice by lecturers and students among others are measures for adequate utilization

of ICT facilities for teaching and learning LIS undergraduate degree programme. Ezecheta (2022) investigated the extent of availability and utilization of ICT facilities by undergraduate students for research in academic libraries: A case study of Tema university, Aba.

The findings of the study also revealed that there are some benefits attached to the use of these ICT facilities in research such as reduction in time spent on research thereby speeding up research, improvement in communication and resource sharing among researchers, provision of access to a wide range of information, efficient organization and classification of information and reduction in distance barrier in carrying out research. Consequently, the study also found out that the problems militating against the use of available electronic resources include; unawareness of the availability of related e-resources to their discipline/course of study, inadequate guide on how to use the resources, poor internet connection, inadequate ICT facilities, epileptic power supply, unconducive atmosphere, frequent breakdown of ICT facilities, virus attack, as well as inadequate trained personnel.

Fagbemi, Abdurahman and Ahmedsenior (2023) examined school libraries service delivery through information communication technologies awareness: A factor for building skills for sustainable development. The study data was analyzed qualitatively using percentages and it was found that, by nature of these schools, there are ICTs in them but some of the school librarians lack technical know-how of these resources to effectively put them to use and teachers do not have much time to use the school library. Anyim (2021) investigated the perception of library users on the use of ICT facilities in Abia state polytechnic library, Nigeria. The findings of the study revealed that users are not satisfied with the adequacy of computers, internet and databases facilities in the library. The findings also revealed observable attitude of librarians towards the use of ICT in rendering services which include lack of interest in providing adequate ICT facilities, poor mastery of ICT facilities in rendering services, inadequate knowledge of appropriate ICT facilities, more comfortability with traditional facilities than ICTs, and lack of strong Library and Information Science background of most library staff. Findings also showed that library users need basic ICT facilities in the library for research purposes, preparing for lecture; preparing for exam; updating knowledge and also for printing, photocopying and scanning documents. Ubogu and Ogbedo (2023) investigated the availability and utilization of Information and Communication Technology (ICT) equipment on the teaching and learning of students in public secondary schools in delta central senatorial district, Delta State, Nigeria.

The sample of the study was made up of 600 respondents both principals and teachers randomly selected from all public secondary schools in Delta Central Senatorial District. The finding revealed that, there are inadequate ICT facilities to be used by teachers and students in teaching and learning process. The study recommends among other that school administrators and stakeholders should encourage utilization of ICT facilities in schools by providing adequate training to teachers and subsequent encouraging students as it helps them during Joint Admission and Matriculation Board Examination and other external examinations. Federal/State government should provide enough ICTs facilities in the public secondary schools in Delta Central Senatorial District to comply with the technological advanced society. Uriah, Eniekenemi and Joel (2016) investigated the availability and utilization of ICT facilities and materials in teaching and learning in Isaac Jasper Adakar Boro college of education, Sagbama, Bayelsa state. The mean and standard deviation were used to analyze the research questions. While z-test was used to analyze the hypothesis which was tested at 0.05 level of significance. From the findings in research question 1, it revealed that most ICT facilities listed in the options were not available in the institution. All the responses from research question 2 were rejected to the various questions. Research question 3 also shows total rejection of the 5 response items presented on the table. The null hypothesis was accepted as z-calculated value of 0.571 was less than z-tabulated value of 1.960. Finally, it was recommended that ICT facilities and materials should be made available for teaching and learning in the

institution. Also, lecturers should be trained continuously on the use of modern ICT facilities.

Research Objectives

The objectives of this study are to ascertain:

1. the availability of ICT facilities in colleges of education libraries in Kano State.
2. the level of lecturers' utilization of ICT facilities in colleges of education libraries in Kano State.

Research Questions

The following research questions were raised and answered in the study:

1. Are there readily available ICT facilities in colleges of education libraries in Kano state?
2. To what extent do lecturers utilize ICT facilities in colleges of education libraries in Kano state?

Methodology

The research design adopted for this study is a descriptive survey. The population study comprised all lecturers in the three colleges of education in Kano State, numbering 1,194. Since one of the colleges is technical and not a conventional college of education, it was excluded to maintain the study's focus. The two conventional colleges of education were purposively selected for the study, and 286 lecturers from a total of 940 were randomly chosen using the simple random sample technique. The instrument used for data collection is a questionnaire titled: Librarian/Lecturers and the Utilization of Available Information and Communication Technology Facilities (LFUAICTF)". The questionnaire had two sections: Section A rated the availability and functionality of ICT facilities using a scale of 3 for "Available and Functioning" (AF), 2 for "Available and Not Functioning" (ANF), and 1 for "Not Available" (NA). Section B rated the utilization of ICT resources with a scale of 3 for "Frequently Utilized" (FU), 2 for "Seldom Utilized" (SU), and 1 for "Not Utilized" (NU). The instrument's validity was confirmed by three lecturers from the Departments of Educational Technology and Computer Science at the University of Ilorin while the reliability of the instrument was determined using Cronbach's Alpha, yielding a reliability coefficient of 0.79. Out of the 286 questionnaires distributed, 280 were retrieved (97.9% response rate), and 269 were deemed usable, representing 94.06% of the total sample. Data were analyzed using descriptive analysis such frequency counts, percentages and a mean set value of 2.0, which was derived from the scales used to answer the research questions formulated to guide the study.

Results

Table 1: Mean of Responses on the Availability of ICT Facilities in Colleges of Education Libraries in Kano State

S/No	Available ICT Facilities	A	ANF	NA	Mean
1	Closed Circuit Television (CCTV)	156	40	73	2.3
2	CCTV monitors	116	75	78	2.1
3	Video Camera with Accessories	88	102	79	2.0
4	Video Player/Recorder	75	81	112	1.9
5	Editing/ Dubbing Machine	93	69	107	2.0
6	Public Address System with Accessories	119	65	85	2.1
7	Slide Projector with Accessories	98	94	77	2.1
8	Opaque Projector with Accessories	110	75	84	2.1
9	Multimedia Projector	96	61	112	1.9
10	Audio Projectors	116	42	111	2.0
11	Photographic Cameras with Accessories	66	34	169	1.6
12	Duplicating Machines	54	49	166	1.6
13	Photocopying Machines	169	58	42	2.5
14	Whiteboard	188	51	30	2.6
15	Computer System with Printers	211	41	17	2.7
16	Magnetic Chalkboards	241	21	7	2.9

17	Cable Satellite Facilities	145	59	65	2.3
18	Digital Camera	101	38	130	1.9
19	Scanner	179	44	46	2.5
20	Ipad/Androids	83	49	137	1.8
	Average Mean				2.2

Table 1 shows the mean response of available ICT facilities in colleges of education library in Kano State. Using a bench mark of 2.0 of a 3-point Likert scale, it was revealed through the responses of lecturers that there are adequate available ICT facilities for Instructional delivery in colleges of education Library in Kano State. Item 16 got the highest mean of 2.9 which indicates that Magnetic Chalkboards are available. Item 15 followed suit with a mean score 2.7 which indicate that computer systems with printers are also available for instructional utilization in Kano Sate colleges of education libraries. Whiteboards likewise were found to be readily available with item 14 having a mean score of 2.6. In addition, photocopying machines and scanners with item 13 and 19 has a mean score of 2.5 which also indicate that they are available.

Also, a mean score of 2.3 was gotten from item 1 and 17 which also revealed that both closed circuit television (CCTV) and cable satellite are available. CCTV monitors (television sets with remote control) public address system with accessories, slide projector with accessories and opaque projector with accessories on items 1,6,7 and 8 respectively has a mean score of 2.1 which similarly indicates that these facilities are available for instructional utilization. Video cameras with accessories (item 3), editing/dubbing machines (item 5), audio projectors (item 10) have a mean score of 2.0 though equal to the bench mark it shows that they are available for instructional utilization as well. However, a low mean score of 1.9 was obtained in item 4, 9 and 18 which showed that despite the fact that most of the items are available they are not available. Facilities that were found not to be available include: photographic cameras with accessories, duplicating machines and Ipad/android with mean score of 1.6, 1.6 and 1.8 respectively.

Table 2: Mean Frequency of ICT Facilities Utilization in Colleges of Education Libraries

S/No	Available ICT Facilities	FU	SU	NU	Mean
1	Closed Circuit Television (CCTV)	42	44	183	1.5
2	CCTV monitors	54	61	154	1.6
3	Video Camera with Accessories	54	60	155	1.6
4	Video Player/Recorder	65	53	151	1.7
5	Editing/Dubbing Machine	76	41	152	1.7
6	Public Address System with Accessories	78	94	97	1.9
7	Slide Projector with Accessories	83	79	107	1.9
8	Opaque Projector with Accessories	24	46	199	1.4
9	Multimedia Projector	55	69	145	1.7
10	Audio Projectors	82	65	122	1.9
11	Photographic Cameras with Accessories	66	38	165	1.6
12	Duplicating Machines	66	78	125	1.8
13	Photocopying Machines	155	48	66	2.3
14	Whiteboard	42	53	174	1.5
15	Computer System with Printers	114	47	108	2.0
16	Magnetic Chalkboards	98	65	106	2.0
17	Cable Satellite Facilities	69	80	120	1.8
18	Digital Camera	42	65	162	1.6
19	Scanner	56	59	154	1.8
20	Ipad/Androids	71	75	123	1.8
	Average Mean				1.8

Table 2, showed that ICT facilities in the college libraries which are frequently utilized for instructional

purposes include; photocopying machines (item 13, mean 2.3), computer systems with printers (item 15, mean 2.0) and magnetic chalkboards (item 16, mean 2.0). The table also showed that all other ICT facilities were poorly utilized for instructional purposes and these include ICT facilities such as: closed circuit television (CCTV), CCTV monitors (television sets with remote control), video player/Recorder, editing/dubbing machine, public address systems and accessories, slide projector with accessories, opaque projector with accessories, multimedia projectors, audio projectors, photographic cameras with accessories, duplicating machines, whiteboard, cable satellite facilities, digital camera, scanners and Ipad/Android. The mean scores of these facilities ranges between 1.4 and 1.9. This implies that there is a low level of ICT facilities utilization in the colleges of education libraries in Kano State.

Discussion of Findings

The findings on the availability of ICT facilities in colleges of education libraries in Kano State revealed that ICT resources were available. Thus this finding corroborates the findings of Enyi and Tah (2012); Agber and Agwu (2013), which also found that ICT facilities were available in Nigerian colleges of education for effective instructional delivery by lecturers. However, these findings contradict the findings of Jude and Dankaro (2012); Diris (2009) who reported a lack of ICT resources for instruction in some colleges of education notably in Minna, Niger state and Katsina-Ala, Benue state. The study also found that the frequency of ICT facility utilization by librarians and lecturers in Kano state's colleges of education libraries was low. This finding also corroborates the findings of Samuel and Abubakar (2006), who found low level of ICT usage among lecturers due to insufficient time allocation and skills. Additionally, the study revealed that many ICT facilities, such as closed-circuit television (CCTV) and monitors, were underutilized for instructional purposes. This corroborates the findings of Ochuku, Amakaino and Chamberian (2013), which found that ICT facilities were not adequately used, attributing this to some lecturers' reluctance to adopt modern technologies. Conversely, the findings of this study differ from those of Ubogu and Evarista (2012); Alassaf (2014), who reported that lecturers in colleges of education had a positive attitude toward effectively utilizing ICT resources. Other findings that either confirm or disconfirm the findings of this study include that of Adizetu, Nwafor and Onoh (2019) which found that a good number of university libraries in Nigerian universities had internet connectivity, computers, local area network (LAN), mobile phones, standby generator and uninterrupted power supply (UPS). Other ICT facilities such as projectors, radio set and stylus pen were found to be unavailable.

In some higher institutions in Nigeria, users are not satisfied with the adequacy of computers, internet and database facilities in the library and the attitude of librarians towards the use of ICT in rendering services which include lack of interest in providing adequate ICT facilities, poor mastery of ICT facilities in rendering services, inadequate knowledge of appropriate ICT facilities, more comfortability with traditional facilities than ICTs, and lack of strong Library and Information Science background of most library staff. Library users also need basic ICT facilities in the library for research purposes, preparing for lecture; preparing for exam; updating knowledge and also for printing, photocopying and scanning documents (Fagbemi, Abdurahman & Ahmedsenior, 2023). Ezecheta (2022) also found out that the problems militating against the use of available electronic resources include; unawareness of the availability of related e-resources, inadequate guide on how to use these resources, poor internet connection, inadequate ICT facilities, epileptic power supply, unconducive atmosphere, frequent breakdown of ICT facilities, virus attack, as well as inadequate trained personnel.

Conclusions

There is availability of some ICT facilities for teaching and learning in the colleges of education libraries in Kano state. These ICT facilities available for instructional purposes include: Magnetic Chalkboards, computer systems with printers, whiteboards, photocopying machines and scanners, closed circuit television (CCTV), cable satellite, CCTV monitors (television sets with remote control), public address system with accessories, slide projector with accessories, opaque projector with accessories, video

cameras with accessories, editing/dubbing machines) and projectors. However, some ICT facilities which are crucial for instructional purposes and found not to be readily available include: photographic cameras with accessories, duplicating machines and Ipads/android.

There are equally only a few number of ICT facilities in the colleges of education libraries which are frequently utilized for instructional purposes by students, lecturers and librarians. These include: photocopying machines, computer systems with printers and magnetic chalkboards while all other ICT facilities which are important for effective teaching and learning were found not to be adequately utilized. This low level of critical ICT facilities utilization can have a negative effect on the teaching and learning process.

Recommendations

1. The use of ICT materials and facilities are highly needed in teaching and learning in teacher training institutions. Hence, there is the need for college of education management to put in more effort to install ICT facilities in their libraries.
2. Libraries in the colleges of education in Kano state should be well funded to be able to acquire needed ICT facilities.
3. School administrators and stakeholders should encourage utilization of ICT facilities in schools by providing adequate training to teachers and library staff.
4. Furthermore, lecturers should be exposed to ICT facilities for teaching and carrying out research work. Standard and regular training should be organized to update lecturers on the use of ICT facilities in education.

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