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AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES IN TEACHING AND LEARNING OF AGRICULTURAL EDUCATION IN JOSEPH SARWUAN TARKA UNIVERSITY, MAKURDI, BENUE STATE, NIGERIA

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ABSTRACT

The study is on the availability and utilization of Information and Communication Technology (ICT) facilities in teaching and learning of agricultural education in joseph sarwuan tarka university. Three research questions were raised and answered by the study. The study adopted a survey research design. The population of the study was 294. All members of the population were used due to its manageable size. The instrument used for data collection was a structured questionnaire. The instrument was validated by five experts. Using Cronbach alpha method, the reliability of coefficient of 0.89 indicating the instrument reliable for the study. Data was collected by the researcher and 294 (100%) copies of the questionnaire were retrieved. Data collected was analyzed using percentages, mean and standard deviation. Results from the study indicated that 92.9% of ICT facilities was available while 7.1% was not available these implies that the Department has available ICT facilities that can be used in teaching of Agricultural, it was also reported that ICT facilities utilize in the Department was at 71.4% while Smart Board, e-Library, video recorder and Departmental website which constitute 28.6% are not been utilized in teaching and learning of Agricultural Education in the Department. The study also found that all of the items had a mean value above the cutoff point of 2.50 which indicated that lecturers and students have challenges in the utilization of available ICT facilities. Based on the findings of the study, it was recommended amongst others that ICT facilities that facilitate teaching and learning should be made available in the department for the purpose of teaching and learning and both lecturers and students should undergo ICT training to improve on their digital literacy for effectiveness.

Keywords: Availability, Utilization, Information and Communication Technology

1.0 INTRODUCTION

Globally it is rare to find any sector that hasn't undergone a digital transformation , and the educational sector is not left out. Information and Communication Technology (ICT) as one of the digital tools has emerged as a powerful tool in transforming education as we have seen with the introduction of e-learning globally. The adoption of information and communication technology (ICT) has recently changed the educational systems in societies with the introduction of the use of computers and Technological driven devices for classroom instructional purposes. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the arrival of ICT in education has provided unlimited access to resources and information and is defined as a great support for teachers and improves the quality of student learning.

The integration of Information and Communication Technology in the field of education has introduced a new dimension in the area of teaching and learning. In education ICT can be understood as the application of digital equipment to all aspects of teaching and learning. Okon, (2005), grouped ICT facilities into broadcast technology, print technology and telecommunication/computer technology. In the view of Oliver (2000). ICT facilitates the dissemination of knowledge based on the contemporary curricula. This is in line with the present curriculum which promotes aptitude and performance of learners, where learning is more learner centered with emphasis on the application of information rather than factual knowledge.

Wirsiy and Shafack (2002) explained that ICT is a broad-based term that encompasses the gathering (acquisition), organization (packaging), storage and retrieval (dissemination) of information that can be in textual or numeric (books and documents), pictorial and vocal forms (audio-visual), using combination of all the above (multimedia) including computers and telecommunications (telephones). These ICT packages has brought major shift in the education paradigm that has brought advantages over conventional learning system where the potential benefits of Computers and computer related devices cannot be overestimated as it gives students a sense of empowerment and control over the pace of learning. According to Brown (2015) lack of competence of computer hinders utilization of computers, but these technologies and their use have made big changes in the educational sector, hence changing its paradigms from teacher-centered to student-centered, and more open in interaction through online learning unlike the conventional class room situation.

Use of Information and Communication Technology (ICT) has provided both teachers and students with more opportunities in the learning environment. The integration of ICT has demonstrated varying impacts on learning, the students who are continuously exposed to technology through education have better 'knowledge', presentation skills, innovative capabilities, and are ready to make more efforts for learning as compared to their counterparts. Pelgrum and Law (2009) noted that effective ICT integration depends on the perceptions and vision of school leaders rather than teachers' ICT skills and learners' disposition to learning. United Nations Educational, Scientific and Cultural Organisation(UNESCO, 2002) noted that ICT is the fundamental building blocks of the present-day society.They further stated that "ICT is a scientific, technical and engineering discipline and management technique used in the management of information, its application and engagement with social, economic and cultural matters". It has been observed that the application of ICT in the educational sector has effectively and efficiently managed information in teaching and learning process using a variety of technological instruments and resources, and it significantly contributes to overall growth and development of the educational sector. Teaching and learning through ICT has been acknowledged as a catalyst for change on a global scale through the innovation of e-Learning using Learning Management Systems and its ability to affect every element of society. Windschitl (2002) pointed out that Several studies have recognized that ICT helps in developing constructivist learning techniques which changes students' approach towards learning as well as the content material, however, for the past three decades there is a legitimate concern that developing countries have been slow in terms of facilitation of teaching and learning using ICT among the majority of Citizens (Hubert ,2006).

Hamilton-Ekeke and Mbachu, (2015). Reported that ICT is now used in various educational aspects for enriching the quality of teaching and learning. The resourcefulness of ICT to academic staff and students of higher institution can be seen through virtual classes and e-learning, thus the use of ICT in the teaching and learning process becomes imperative. Babajide and Bolaji (2003). Outlined various ICT facilities used in the teaching and learning process to include computers, the internet, electronic notice boards, digital multimedia, overhead projectors, optical fibers, fax machines, and so on.

Olelewe and Okwor, (2017) observed that lecturers are utilizing these ICT facilities in teaching and pointed out some advantages and disadvantages of the use of ICT in teaching and learning to include access communication channels and interactive applications, such as chats and forums, which complement other tools such as e-mail, word processors, image editors, application of digital and interactive tools to increase student concentration and, therefore, they assimilate concepts more quickly, enhancing learning, Promoting autonomous learning for students with the incorporation of digital alternatives such as online courses, and incorporating new teaching instructional tools, thus improving academic results and encouraging dynamism in the classroom, ICT tools facilitate collaborative learning and knowledge sharing among students, teachers, and educational communities ICT has contributed to bridging the gender gap in education by providing equal opportunities for girls and women through E-learning platforms which offer flexibility and privacy and help overcome cultural and societal barriers that may hinder female participation in education. Stressing the importance of the use of ICT in schools, Olorunsola (2007), posited that through ICT, some educational needs have been met; it changes the needs of education as well as the potential processes. The integration of ICT in education faces challenges despite its immense benefits. These challenges include inadequate infrastructure, affordability of ICT gadgets, limited internet connectivity ,inadequacy of digital skills among educators, and poor attitude of managements of institutions in policies that support ICT integration.

ICT has revolutionized the education landscape in the country, it plays a vital role in various aspects as it enables easy access to a vast array of educational resources, including digital textbooks, e-books, online journals, and educational websites which facilitate collaborative learning and knowledge sharing among students, teachers, and educational communities leading to digital transformation which enhances the overall educational ecosystem, allowing educators and administrators to focus more on instructional activities and student support. Despite its enormous advantages, its availability and utilization remain a great challenge to stakeholders in the educational sector. As observed by Okebukola, (1997), cited by Aduwa-Ogiegbaen and Iyamu, (2005) ICT has not been fully integrated as part of classroom technology in more than ninety (90) percent of Nigerian public schools. This implies that the availability of ICT facilities in schools for teaching and learning is yet to gain dominance. Studies conducted by (Olelewe and Okwor, (2017) also pointed out that lecturers' level of utilization of ICT facilities for teaching purposes is

low. Despite the immense benefits of ICT, Technologies are not perfect; just as they bring many benefits to education

According to Ajayi (2008), the effective utilization of ICT in teaching and learning depends on the availability of these facilities and teachers' competence in using them. Observation has shown that there are no functional ICT facilities in most technical colleges in Yobe state and this hampers the teacher ability to use them for teaching and learning. Also lack of adequate computer literate teachers, irregular power supply and inadequate funding are another set of obstacle militating against effective utilization of ICT facilities in teaching and learning of vocational and technical education in Yobe state technical colleges. Therefore, there is need to address such problems by providing adequate ICT facilities and training needs of the teachers to effectively utilize it in teaching and learning process.

Therefore, there is need to address such problems by providing adequate ICT facilities and training for lecturer to effectively utilize these facilities in teaching and learning process.

Therefore the objectives of the study were to:

1. Determine the availability of ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi
2. Ascertain ICT facilities utilized in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi
3. Outline challenges faced in the utilization of available ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi

RESEARCH QUESTIONS

1. What are the available of ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?
2. What are the ICT facilities utilized in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?
3. What are the challenges faced in the utilization of available ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?
4.

2.0 METHODOLOGY

2.1 Research design

The study adopts survey research design

2.2 Area of the Study

The study is conducted in Benue State, The study area is Makurdi Local Government Area of Benue State. Makurdi is the capital city of Benue State. Makurdi is geographically bounded with Gwer-west Local Government to the South and other local government namely Guma, to the North, Gwer East to the East, all in sixteen-kilometer radius. Makurdi has three (3) Universities namely Benue State University, Joseph Sarwuan Tarka University Makurdi and National Open University with one School of Nursing and Alfred Akawe Torkula Polytechnic, it also has primary and secondary schools scattered all over the town. The people of Makurdi comprise of the Tiv, Idoma, Igede, Etulo, Jukun, Yoruba, Igbo and Hausa speaking tribes, whose main occupation include trading, farming and civil service

2.3 Population of the study

The population of the study was 294 comprising of 21 lecturers and 273 students all from Joseph Sarwuan Tarka University Makurdi

2.4 Sample and Sampling Technique

There is was sampling because the population was manageable and the researcher made use of the entire population

2.5 Reliability of the Instrument

Cronbach-alpha reliability method was used and a reliability coefficient of 0.89 was obtained, this indicated that the instrument was reliable and can be used for the study.

2.6 Method of data collection.

The instrument used for data collection for the study was a structured questionnaire. The questionnaire was administered to the respondents using three (3) research assistants guided by the researcher, on the spot collection of the questionnaire was adopted in administering the questionnaire, thus 100% (294) of the instrument were retrieved

2.7Method of data analysis

Data collected for research question one and two was analyzed using percentages while research question three was analyzed using Mean and standard deviation.

2.8 **Decision rule**

Available and utilized ICT materials was indicated using percentage for research question one and two while for research question three, any item with a mean score above 2.50 was regarded as a challenge.

3.0 RESULTS AND DISCUSION

3.1 Research Question 1. What are the available ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?

Results showed the checklist of available ICT facilities in the Department of Agricultural Education. Out of the 14 ICT materials, 13 were available except a Departmental website which was ticked not available by the respondents, the results indicated that 92.9% of ICT facilities was available while 7.1% was not available these implies that the Department has available ICT facilities that can be used in teaching of Agricultural. Findings in research question one below shows the check list available ICT facilities in teaching and learning agricultural science, the findings indicated that Desktop Computers, Laptop Computers, Projector, Printer Machine, Photocopier, Scanner, Tape recorder, Local Area Network (LAN), Flash Drive, Public Adress were available in the department except smart board, e-library, video recorder and departmental website that were checked not available. This is in consonance with Atsumbe, Raymond, Enoch and Duhu (2012) who observed that are no e-learning ICT facilities available in Tertiary institutions and those available are mainly utilize for administrative purposes

Table 1. Available of ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi. N=294

S/NO	ICT FACILITIES	AVAILABLE	NOT AVAILABE
1	Desktop Computers	√	
2	Laptop Computers	√	
3	Projector	√	
4	Printer Machine	√	
5	Photocopier	√	
6	Scanner	√	
7	Tape recorder	√	
8	Smart Board	√	
9	Local Area Network (LAN)	√	
10	Flash Drive	√	
11	Public Address system	√	
12	E-Library	√	
13	Video Recorder	√	
14	Departmental Website		√

Field survey 2024

3.2 Research Question 2. What are the ICT facilities utilized in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?

Result in Table 2 below shows ICT facilities that are utilize in the Department, the check 71.4% of available facilities are utilized while Smart Board, e-Library, video recorder and Departmental website which constitute 28.6% are not been utilized in teaching and learning of Agricultural Education in the Department. From the above checked list, it shows that most of these ICT facilities are used for office purpose and not teaching and learning. Findings of research question 2 indicated that most of the utilized ICT facilities are Desktop Computers, Laptop Computers, Projector, Printer Machine, Photocopier, Scanner, Tape recorder, Local Area Network (LAN), Flash Drive, Public Adress in the Department are used for office purposes, it is this note that Haydn, Terry and Roy (2008) opined that the authorities of tertiary institutions should provide well equipped and furnished computer laboratories with functional internet facilities for the adoption of e-learning.

Table 2. ICT facilities that are utilized in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi. N=294

S/NO	ICT FACILITIES	UTILIZE	NOT UTILIZE
1	Desktop Computers	√	
2	Laptop Computers	√	
3	Projector	√	
4	Printer Machine	√	
5	Photocopier	√	
6	Scanner	√	
7	Tape recorder	√	
8	Smart Board		√
9	Local Area Network (LAN)	√	
10	Flash Drive	√	
11	Public Adress	√	
12	E-Library		√
13	Video Recorder		√
14	Departmental Website		√

Field survey 2024

3.3 Research Question 3 What are the challenges faced in the utilization of available ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi?

The data in Table 3 below revealed that the mean of all the 12 items ranged from 2.71 to 4.03. This showed that each and all of the items had a mean value above the cutoff point of 2.50 which indicated that all the items were challenges faced by lecturers and students in the utilization of available ICT facilities. The Table also revealed that all of the items had their standard deviation ranging from 0.34 to 0.89 which shows that the respondents were not far from the mean in their responses. Data analyzed showed that all the respondents have challenges in the utilization of the available ICT facilities. Findings in research question 3 indicated that both lecturers and students

have challenges in utilization of available ICT facilities, this is in agreement with Iyanu (2005) and Yahaya and Alawaye (2011) who amongst others pointed out High cost of subscription fees, high cost of laptops, smartboards, printers and scanners as major challenges in utilization of ICT facilities

Table 3. Challenges faced by lecturers and students in the utilization of available ICT facilities in teaching and learning of Agricultural Education in Joseph Sarwuan Tarka University Makurdi. N=294

S/NO	Item Statement	Mean	SD	Remark
1.	High cost of maintenance of ICT facilities	4.03	0.59	Agree
2.	Epileptic power supply within the University	3.64	0.73	Agree
3.	Low software competence by lecturers on the use of ICT facilities in teaching	3.09	0.89	Agree
4.	Low software competence by students on the use of ICT facilities in learning	3.48	0.71	Agree
5.	Limited knowledge and experience of ICT in visual learning environments	3.61	0.59	Agree
6.	Inadequate skills in setting up an online class	2.71	0.36	Agree
7.	Overcrowded classroom	2.87	0.34	Agree
8.	Poor internet connectivity within the University	3.14	0.87	Agree
9.	Poor maintenance culture of ICT facilities within the University	3.39	0.79	Agree
10.	Obsolete ICT hardware’s and software’s	3.18	0.89	Agree
11.	Lack of Digital literacy	3.21	0.76	Agree
12.	Poor adaptation of ICT technology	3.71	0.74	Agree

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Based on the findings of the study, it was concluded that though there are ICT facilities available in the Department of Agricultural Education, but are utilized for administrative purpose and not for teaching and learning. Also, the study concluded that there are varying challenges in the utilization of available ICT materials coupled with high cost of purchase of gadgets and high cost of internet subscriptions.

4.2 Recommendation

Based on the findings of the study, it was recommended that

1. ICT facilities that facilitate teaching and learning should be made available in the department for the purpose of teaching and learning
2. Both lecturers and students should undergo ICT training to improve on their digital literacy for effectiveness.
3. High budgetary provisions should be made for the purchase maintenance of ICT facilities and internet subscription of network services

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