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Assessment of the Availability and Functionality of Information and Communication Technology (ICT) Facilities for Teaching Agricultural Education in Colleges of Education in North-East Nigeria

Yushau Sallau

Department of Agricultural Education College of Education Zing, Taraba State Nigeria
yushau.sallau@yahoo.com

Abstract

The purpose of the study was to assess the availability and functionality of information and communication technologies (ICT) for teaching agricultural education in colleges of education in North-East Nigeria. The research design used for the study is survey research design. Three research questions guided the study. The area of the study was North-East Nigeria. The population for the study was 216. Census was adopted because the size of the target population is defined, accessible and manageable. The instruments used for data collection is a checklist. The reliability coefficients of the sub – sections of the instrument were computed using Cronbach Alpha method. An reliability index of 0.87 was obtained. The research questions posed were answered using average and percentages. Findings of the study revealed availability of ICT facilities for Agricultural Education Programme, few ICT facilities are adequate and functional for Agricultural Education Programme, among others. Based on the findings of the study, it was recommended that management of colleges of education should endeavor to provide enough functional ICT facilities proportional to the number of students for effective teaching and learning of Agricultural Education, Lecturers should undertake training in the use of ICT facilities for effective instructional delivery, an enlightenment campaign should be carried out to sensitize Agricultural Education Lecturers to develop positive attitude towards the use of ICT facilities in teaching Agricultural Education among others.

Keywords: Assessment, Availability, Adequacy, Functionality, ICT, Agricultural Education

Introduction

Information and Communication Technology (ICT) is a collective term used for the various technologies involved in processing and transmitting information. These include computing, telecommunications and microelectronics. ICTs are not just about technologies but also more about information transfer and communication, which is often noticed in an educational environment, Yusuf (2005). ICT is redefining the way we do almost everything and it is a ready tool for all strata of the society because they are applied in a particular context, such as ICTs in education, health care, libraries and so on. Governments and people around the world have started appreciating the ability of ICT to stimulate rapid development in all sectors of the economy with no exception in education.

The issue of Information and Communication Technology in teaching has become increasingly vital owing to the global nature of the 21st century teaching and learning situations. Nwagbo and Ugwuanyi (2012) stated that the use of modern technologies such as ICT tools offers many means of improving teaching and learning in the classroom. New technologies have the potentials to support education across the curriculum and provide opportunities for effective communication between teachers and students. Al-Ansari (2006) noted that one of the functions of education is preparation of students for life. This function in 21st century may be participation in an information rich society where knowledge is regarded as the main source for economic development of countries. According to the World Bank (2002), ICT consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information. Christtensen (2004) described ICT as the use of hardware, software, services and supporting infrastructures to manage and deliver information

using electronic devices. Abdullahi (1995) defined ICT as the methods and technical means of capturing, storing, processing, retrieving and transmitting data through multimedia electronics base approach. Information and Communication Technology (ICT) deals with the handling and processing of information using electronic devices. These electronics systems can be used for broadcasting, telecommunications and all forms of computer mediated communications (National Council for Educational Technology, (NCET, 1998).

Information and Communication Technology (ICT) is defined as the art and applied sciences that deal with data and information. It encompasses all (equipment including computational machinery computers, processes, procedures, concepts, principles and the science) that come into play in the conduct of the information activities through acquisition, representation, processing, presentation, security, interchange, transfer, management, organization, storage and retrieval of data and information, Yusuf (2005). ICT can thus be generally defined as those technologies that are used for assessing, gathering, manipulating and presenting or communicating information. The technologies could include hardware (e.g. computers and other devices), software applications and connectivity e.g. Access to the internet, local networking infrastructure and video conferencing (Chen & Kee, 2005).

ICT-centered education covers the use of computers, on-line self-learning packages, interactive CDs, satellites, radio, optical fiber technologies, tale-presence systems and all types of Information Technology (IT) hardware and software (Akindolu, 2002).ICT has affected every aspect of human activity and have potential role to play in the field of education. A great deal of research has proven the benefits of this technology to the field of education which undoubtedly affected teaching, learning and research. The new trend for education worldwide is to gradually explore the advantage which ICT creates for both teachers and students. Hence, as we proceed in this new millennium, classroom walls will gradually give way to virtual classes that accommodate everyone, everything and every situation. Teachers at all levels of schooling will do well to be prepared for such radical revolution; otherwise they will be caught unawares (Yusuf, 2005).

The education sector becomes one of the most important areas that have not been ignored by the ICT to transform the spectrum of educational landscape especially at tertiary level. The field of education has certainly been affected by the penetrating influence of ICT worldwide. ICT has made tremendous impact on the quality of teaching, learning and research in all the institution using it, (Kwacha, 2007). According to (Olulube,2017), the introduction of ICT usage, integration and diffusion has initiated a new age in educational methodologies, thus has radically changed traditional method of information delivery and utilization patterns as well as offering contemporary learning experience for both teachers and students (Nwana, 2008).

Utilization, according to Ajayi & Ekundayo (2007), is making use of something or finding a practical use for something. To make use of something that is readily available in a sensible or economic way. Utilization of ICT facilities in education is the proper use of ICT facilities in Teaching and Learning. Ajayi & Ekundayo (2007) opined that the effective use of various ICT in teaching and learning depends on the availability of these facilities and teachers' competence in using them. According to Kwacha (2007), availability of ICT refers to the ICT tools that can be found for use in teaching and learning of Agriculture in Colleges of Education, while utilization refers to the application of acquired knowledge and skills in ICT for effective production in teaching and learning situation. But it was discovered that some of the facilities are not there or not sufficiently provided for teaching and learning.

The increasing trend of the utilization of ICT tools in classroom work across the globe has been necessitated by three major factors: Firstly, Electronic technological devices are being used to prepare the present generation of young people for a future work place that will undoubtedly be characterized by ICT. Preparing students and the wider citizenry for tomorrow's world can only be done through a careful use of ICT tools-computers, variety of software packages, world processors, internet, spreadsheet and databases. Secondly, ICT tools make schools more efficient in the teaching-learning enterprise, Classroom teacher's personal professional development and academic productivity. Finally, ICT tools are being used to improve reform or renovate teaching and learning. Learners are thus stimulated to learn actively either on an independent basis or working closely with others (Olarundore, 2001).

Highlighting the importance of ICT, Akano (2014) revealed that it is important to acquire several ICT skills, as it is in mobility where heterogeneity carries the day, so it is people with multiple ICT skills, where they win over people with one specialized skills, the reason being that previous ICT skills is becoming obsolete at the speed of light, so one will have no space in the space of technology. He further identified ten (10) ICT skills which include: Software development, mobile application development, web development, IT security, Network management, service management, virtualization, Data base management, Business skills and finishing.

Agricultural Education Lecturers in the Colleges of Education should acquire basic concepts of computer operation such as word processing for preparing lecture notes examination questions, spread sheets for computation of students results, they should create computer based presentation using power points especially at the national and international conferences, they should acquire knowledge of searching information from the internet, they should also be able to use computer programmes and web pages to animate difficult content areas in Agricultural Education and make them concrete and easy understanding for students.The concept of Agricultural Education has been defined by Egbule, (2002) as the types of education that is employed in training learners in the improved agricultural production processes as well as in the techniques for the teaching of agriculture. It is taught in Colleges of Education and Universities to provide students with the skills, values, attitudes and related knowledge in production, processing and marketing of agricultural and related product as well as teaching of Agricultural Science to pupils and students in basic schools. According to Osinem (2008), Agricultural Education is a process of imparting knowledge, skill and attitude in agriculture to the learner at any level.

Statement of the Problem

The worldwide technology revolution is challenging and redirecting all forms of education. The incorporation of ICT into the teaching and learning process has become an important component throughout all levels of education. ICT has gradually collapse its way into classrooms setting in schools despite limitations brought about by economic downturn. Several studies have indicated the academic benefits of ICT in educational setting.Teachers and students' ICT experiences relate positively to their attitude towards ICT utilization for teaching and learning purposes. The more experience a teacher or student has with the ICT tools the more likely that he would show positive attitude toward the use of ICT (Terry, Kathy & Eleanor 1997).

Despite the immense benefit of ICT in educational setting, series of studies revealed that few institutions are moderately equipped with ICT tools for instructional purposes, while some are still poorly equipped with little or no ICT tools and other relevant instructional resources. Some of the findings of these studies include non-availability of ICT facilities, lack of access to resources due to lack of hardware, lack of utilization of ICT in planning, implementation and evaluation of instructions, lack of technical support, unreliability and acute shortage of relevant instructional software packages for agricultural instruction.

In developing countries such as Nigeria, ICT is chatted everywhere but is yet to be fully embraced and integrated into the various sectors of the government, especially in the education sector. The traditional method of instruction is still prevalent in our institutions despite the overwhelming influence of ICT in teaching and learning globally. The chalkboard and textbook have been the sole sources of passing knowledge in schools. Therefore, there is an urgent need to improve the systems of education through the deployment and use of ICT in tertiary institutions especially colleges of education in Nigeria. The situation of ICT usage in our colleges of education is still not encouraging despite its usefulness as indicated by the pre-study investigation of Nigerian colleges of education by NCCE. It was observed that some colleges of educations teachers were not only ignorant of what ICT actually entails but also the numerous benefits and opportunities it has to offer particularly in its use as an instructional delivery medium.

Colleges of education have been recognized as a very crucial institution for socio-economic and human capital development of any nation in the world. Hence, the need for any nation to transform them to align with the demands of a globalization and technology-driven world of the 21st century is necessary. In reality, this is the 21st century which is characterized by globalization but is part of the education there? How prepared are they to be part of the global community of learners? These are questions that require empirical investigations to establish, and this is what prompted this study.

Purpose of the Study

The main purpose of this study is to assess the availability and utilization of ICT for teaching agricultural education in colleges of education in North-East Nigeria. Specifically the study intends to assess: -

- availability of ICT facilities for Agricultural Education programme in colleges of Education in North East Nigeria;
- the Adequacy of the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria and
- the functionality of the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria.

Research Questions

The following research questions guided this study:

- What are the available ICT facilities for Agricultural Education programmes in Colleges of Education in North East Nigeria?
- How adequate are the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria?
- How functional are the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria?

Methodology

The study adopted descriptive survey research design. According to Ekele (2008), survey research design is usually designed to find out the opinion of the people in a given area towards an issue of interest to the generality of the populace in that area. A survey research design is one in which a group of people or item is studied by collecting and analysis of data from only a few people or items considered to be representative of the entire group using questionnaires, interview or observation. Since the present study involves the evaluation of ICT for effective agricultural education programmes in colleges of education in North-East Nigeria, survey research design was the most appropriate to elicit information from the respondent and questionnaires was the appropriate tool to used, hence the adoption of the design.

The area of the study was North-East Nigeria, made up of six states namely Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe. The major occupation of the people in the region is farming, Livestock are also reared. The major languages in the region are Hausa, Fulani, and Kanuri. The choice of North East for this study was because there are Colleges of Education that offer Agricultural Education as a course.

The population for the study was 216 comprising 55 Lecturers from 3 Federal Colleges of Education and 161 Lecturers from 7 State Colleges of Education. The breakdown of lecturers (respondents) from the ten Colleges of Education in the North East is presented in Table 1 in Appendix D. No sampling was carried out because the size of the respondent of 216 is manageable. The entire population was used for the study. Hence there was no sampling.The instruments used for data collection checklist. The instrument was developed by the researcher based on the existing NCCE minimum standard for Nigerian Colleges of Education and consultation of related literature. Two response options of available and not available, adequate and not adequate functional and not functional were used.

The section A of the checklist contained forty-three (43) items on ICT facilities where the researcher physically observed and ticked the available ICT facilities as: Available, (AV) and Not Available (NA). The minimum standard for Nigerian Colleges of Education by National Commission for Colleges of Education (NCCE) stated that there must be minimum of five (5) ICT facilities for effective instructional delivery in Colleges of Education. Section B of the checklist dealt with the research question two with forty-three (43) items on adequacy of ICT facilities where the researcher observed and ticked the adequacy of the available ICT facilities for effective agricultural education programmes as: Adequate (AD), and Not Adequate (NA). Section C of the checklist on the other hand dealt with research question three (3) with forty-three (43) items on the functionality of ICT facilities available. The response options were; Functional (F) and Not Functional (NF).The draft copy of the instrument was subjected to face and content validation. The validation was done by five experts. Two from the Department of Agricultural Education, Two from the department of Education Foundation and General Studies and One from Information and Communication Technology Unit, all from Joseph Sarwuan Tarka University Makurdi (JOSTUM). The experts restructured and corrected items that were wrongly

written and eliminated all those that were irrelevant. The contributions of the experts were used to develop the final copy of the questionnaire.The instrument was subjected to trial testing in Federal College of Education (Technical) Gusau Zamfara State, Federal College of Education Zaria Kaduna State, and Saadatu Rimi College of Education, Kumbotso Kano State all in North-West Nigeria. Cronbach Alpha method was used to determine the internal consistency of the instrument. The Cronbach Alpha reliability coefficient (r) of 0.87 was obtained indicatings the internal consistency of the instrument.

The instrument for data collection was administered by the researcher and five (5) research assistants who assisted in the administration of the instruments to the respondents in the study areas. The research assistants were hired based on their environment, and were instructed by the researcher on how to administer and retrieve the questionnaire to the respondents at an agreed location and time. All copies of the instruments administered were retrieved representing one Hundred percent (100%). retrieval rate. The data collected using checklist was analyzed using frequencies and percentages to answer research question one (1) to three (3). The decision on availability of ICT facilities for Agricultural education programme was based on the fact that any item with zero (0) was considered as not being available while with one (1) and above was regarded as being available. On the adequacy of ICT facilities, items with 1-99% was considered as not being adequate, while any item with 100% and above was regarded as being adequate. On the functionality of ICT facilities, items with 1-49% were regarded as not functional whereas items with 50% and above were considered as being functional.

Results and Discussion

Data for the study were statistically analyzed and presented in tables based on research questions answered.

Table 1: Availability of ICT facilities for Agricultural Education programme in Colleges of Education in North-East Nigeria.

SN	ICT Facilities	NCCE Min. Std	Aver. Avail.	Per. Avail.	Rmk
1.	Desktop Computers	5	5.60	112	Available
2.	Laptop computers	5	5.20	104	Available
3.	Smart phones	5	2.20	44	Available
4.	Internet facility	5	2.40	48	Available
5.	Television set	5	2.20	44	Available
6.	Local Area Network (LAN)	5	3.20	64	Available
7.	Radio	5	1.50	30	Available
8.	Modem	5	5.00	100	Available
9.	Flash drive	5	5.00	100	Available
10.	Compact Disc read only memory (CD-ROM)	5	4.60	92	Available
11.	Digital Versatile Disc (DVD)	5	3.40	68	Available
12.	Projector	5	2.90	58	Available
13.	Digital camera	5	1.40	28	Available
14.	Tape Recorder	5	1.10	22	Available
15.	Projector Screen	5	2.90	58	Available
16.	Smart board	5	2.00	40	Available
17.	Multimedia projector	5	5.30	106	Available
18.	Magnetic board	5	1.80	36	Available
19.	Public Address System (PAS)	5	3.40	60	Available
20.	Computer Laboratory	5	0.80	16	Available
21.	Scanner	5	1.80	36	Available
22.	Printer	5	4.30	86	Available
23.	Photocopier	5	4.20	84	Available
24.	Online library	5	0.30	6	Available
25.	School website	5	1.00	20	Available
26.	E-mail account	5	1.00	20	Available
27.	Facebook,	5	1.00	20	Available
28.	Zoom,	5	0.20	4	Available
29.	Instagram	5	0.00	0	Not Available
30.	Computer Sensors	5	1.10	22	Available
31.	Video cassette recorder (VCR)	5	0.50	10	Available
32.	Talking books	5	0.50	10	Available
33.	Instructional software	5	1.60	32	Available
34.	Data base software	5	1.60	32	Available
35.	Spreadsheet software	5	2.20	44	Available
36.	Presentation software (MS Power Point)	5	2.80	56	Available
37.	Graphics Software (Corel Draw)	5	2.40	48	Available
38.	Computer Managing Instruction (CMI) software	5	1.80	36	Available
39.	Computer Anti-Virus Software	5	4.70	94	Available
40.	Friendly robot educational device	5	1.10	22	Available

41.	Modelling software	5	0.70	14	Available
42.	User manual for ICT tools	5	4.10	82	Available
43.	Simulation software	5	1.30	26	Available

NCCE= National Commission for Colleges of Education, Min. Std= Minimum Standard, Aver. Avail.= Average Availability, Per. Avail.= Percentage Availability, Rmk = Remark.

Data on Table 1 revealed 42 out of 43 items had average availability of ICT facilities ranging from 0.3-5.60 and 4 -112 percentage availability of ICT facilities. This indicated that ICT facilities are available for Agricultural Education programme in Colleges of Education in North-East Nigeria.

Research Question 2: How adequate are the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria?

To answer this research question, data on how adequate are the available ICT facilities for Agricultural Education programme in Colleges of Education in North-East Nigeria was collected, analyzed and presented in Table 2.

Table 2: Adequacy of the available ICT facilities for Agricultural Education programme in Colleges of Education in North-East Nigeria

SN	ITEMS	NCCE Min. Std	Aver. Adeq.	Per. Adeq.	Rmk
1.	Desktop Computers	5	5.60	112	Adequate
2.	Laptop computers	5	5.20	104	Adequate
3.	Smart phones	5	2.20	44	Not Adequate
4.	Internet facility	5	2.40	48	Not Adequate
5.	Television set	5	2.20	44	Not Adequate
6.	Local Area Network (LAN)	5	3.20	64	Not Adequate
7.	Radio	5	1.50	30	Not Adequate
8.	Modem	5	5.00	100	Adequate
9.	Flash drive	5	5.00	100	Adequate
10.	Compact Disc read only memory (CD-ROM)	5	4.60	92	Not Adequate
11.	Digital Versatile Disc (DVD)	5	3.40	68	Not Adequate
12.	Projector	5	2.90	58	Not Adequate
13.	Digital camera	5	1.40	28	Not Adequate
14.	Tape Recorder	5	1.10	22	Not Adequate
15.	Projector Screen	5	2.90	58	Not Adequate
16.	Smart board	5	2.00	40	Not Adequate
17.	Multimedia projector	5	5.30	106	Adequate
18.	Magnetic board	5	1.80	36	Not Adequate
19.	Public Address System (PAS)	5	3.40	60	Not Adequate
20.	Computer Laboratory	5	.80	16	Not Adequate
21.	Scanner	5	1.80	36	Not Adequate
22.	Printer	5	4.30	86	Not Adequate
23.	Photocopier	5	4.20	84	Not Adequate
24.	Online library	5	.30	6	Not Adequate
25.	School website	5	1.00	20	Not Adequate
26.	E-mail account	5	1.00	20	Not Adequate
27.	Facebook,	5	1.00	20	Not Adequate
28.	Zoom,	5	.20	4	Not Adequate
29.	Instagram	5	.00	0	Not Adequate
30.	Computer Sensors	5	1.10	22	Not Adequate
31.	Video cassette recorder (VCR)	5	.50	10	Not Adequate
32.	Talking books	5	.50	10	Not Adequate
33.	Instructional software	5	1.60	32	Not Adequate
34.	Data base software	5	1.60	32	Not Adequate
35.	Spreadsheet software	5	2.20	44	Not Adequate
36.	Presentation software (MS Power Point)	5	2.80	56	Not Adequate
37.	Graphics Software (Corel Draw)	5	2.40	48	Not Adequate
38.	Computer Managing Instruction (CMI) software	5	1.80	36	Not Adequate
39.	Computer Anti- Virus Software	5	4.70	94	Not Adequate
40.	Friendly robot educational device	5	1.10	22	Not Adequate
41.	Modeling software	5	.70	14	Not Adequate
42.	User manual for ICT tools	5	4.10	82	Not Adequate
43.	Simulation software	5	1.30	26	Not Adequate

NCCE= National Commission for Colleges Of Education, Min. Std= Minimum Standard, Aver. Adeq. = Average Adequacy, Per. Adequacy.= Percentage Availability, Rmk= Remark.

Data on Table 2 revealed 5 out of 43 items had average adequacy of ICT facilities ranging from 5.00 - 5.60 representing 100 - 112 percentage adequacy of ICT facilities which is equal to/ above NCCE minimum standard of 100 percent adequacy. This indicated that desktop computers, laptop computers, modem, flash and Multimedia projector are the adequate ICT facilities for Agricultural Education programme in Colleges of Education in North-East Nigeria.

Research Question 3: How functional are the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria?

To answer this research question, data on how functional are the available ICT facilities for Agricultural Education programme in Colleges of Education in North-East Nigeria was collected, analyzed and presented in Table 3.

Table 3: Functionality of the available ICT facilities for Agricultural Education programme in Colleges of Education in North East Nigeria

SN	ITEMS	NCCE Min. Std	Aver. Func.	Per. Func.	Rmk
1.	Desktop Computers	5	4.90	98	Functional
2.	Laptop computers	5	4.60	92	Functional
3.	Smart phones	5	1.30	26	Not functional
4.	Internet facility	5	2.00	40	Not functional
5.	Television set	5	2.00	40	Not functional
6.	Local Area Network (LAN)	5	2.60	52	Functional
7.	Radio	5	1.00	20	Not functional
8.	Modem	5	4.80	96	Functional
9.	Flash drive	5	4.60	92	Functional
10.	Compact Disc read only memory (CD-ROM)	5	2.70	54	Functional
11.	Digital Versatile Disc (DVD)	5	2.30	46	Not functional
12.	Projector	5	2.00	40	Not functional
13.	Digital camera	5	.80	16	Not functional
14.	Tape Recorder	5	.60	12	Not functional
15.	Projector Screen	5	2.70	54	Functional
16.	Smart board	5	1.40	28	Not functional
17.	Multimedia projector	5	4.70	94	Functional
18.	Magnetic board	5	1.10	22	Not functional
19.	Public Address System (PAS)	5	2.80	56	Functional
20.	Computer Laboratory	5	.80	16	Not functional
21.	Scanner	5	1.20	24	Not functional
22.	Printer	5	3.50	70	Functional
23.	Photocopier	5	3.60	72	Functional
24.	Online library	5	.10	2	Not functional
25.	School website	5	1.00	20	Not functional
26.	E-mail account	5	1.00	20	Not functional
27.	Facebook,	5	1.00	20	Not functional
28.	Zoom,	5	.20	4	Not functional
29.	Instagram	5	.00	0	Not functional
30.	Computer Sensors	5	1.10	22	Not functional
31.	Video cassette recorder (VCR)	5	.00	0	Not functional
32.	Talking books	5	.00	0	Not functional
33.	Instructional software	5	1.20	24	Not functional
34.	Data base software	5	1.20	24	Not functional
35.	Spreadsheet software	5	2.20	44	Not functional
36.	Presentation software (MS Power Point)	5	2.80	56	Functional
37.	Graphics Software (Corel Draw)	5	2.40	48	Not functional
38.	Computer Managing Instruction (CML) software	5	1.60	32	Not functional
39.	Computer Anti- Virus Software	5	3.90	78	Functional
40.	Friendly robot educational device	5	.60	12	Not functional
41.	Modeling software	5	.50	10	Not functional
42.	User manual for ICT tools	5	3.90	78	Functional
43.	Simulation software	5	1.10	22	Not functional

NCCE= National Commission for Colleges of Education, Min. Std= Minimum Standard, Aver. Func.= Average Functionality, Per. Func..= Percentage Functionality, Rmk= Remark.

Discussion of the Findings

The result of findings from research question 1 that ICT facilities are available for Agricultural Education programme in Colleges of Education is at discordance with the earlier finding by Atsumbe, Raymond, Enoch and Duhu (2012) who found out that there are no e-learning infrastructure and ICT tools available even where available they were mainly for administrative purposes. The finding is also in disagreement with earlier finding by Dauda, Bata and Solomon (2016) who reported that ICT are not available for teaching and learning in Technical Colleges. The difference in the present study and earlier findings could be attributed to the amount of funding available in such institutions. Where the schools are underfunded, they will be constrained and cannot meet up with the provision of ICT facilities for teaching and learning. The implication of the finding of this study shows that both lecturers and students stand to benefit from the available ICT facilities since they will be used for teaching and learning purposes.

The result of the findings on research question 2 that desktop computers, laptop computers, modem, flash and Multimedia projector are the few ICT facilities available for Agricultural Education programme in Colleges of Education are in agreement with earlier finding by Olajide and Lawal (2012) that only 36.5% of the schools had computer laboratory and by implication ICT facilities. Also, the finding is in harmony with Ndirika and Kanu (2012) report that available computers in the schools were not adequate and in some schools there were no computers at all. The inadequacy of ICT facilities for teaching and learning in our Colleges of Education show that the few available cannot meet the need of both lecturers and students as many students would have to struggle for access and lecturers on the other hand would find it difficult to always make use of such facilities. It is only when the ICT facilities are in adequate number that they can be used maximally.

The result of findings on research question 3 that desktop computers, laptop computers, local area network, modem, flash, projector screen, multimedia projector and printers are functional ICT facilities for Agricultural Education programme in Colleges of Education is in agreement with finding by Madu and Laura (2011) and Dauda, Bata and Solomon (2016) that ICT facilities are not only inadequate but non-functional in many schools. The current state of ICT in Colleges of Educations could be attributed to lack of maintenance culture or procurement of sub-standard facilities by contractors. This entails that students' accesses to these facilities would be negligible thus affecting the quality of teaching and learning. Lecturers will be helpless if facilities needed to aid their work are in the state of disrepair. This might not be unconnected with the general outcry that quality of students produced now is low and cannot perform up to satisfaction when given an opportunity.

Summary

The success of agricultural education programme as outlined in the National Commission for Colleges of Education (NCCE) to a very large extent is dependent on the availability, adequacy, and functionality and how often these ICT facilities are used. Hence the study assessed the availability and utilization of ICT facilities for teaching Agricultural education in Colleges of Education in North-East Nigeria.

Conclusion

Based on the findings of the studies, it was therefore concluded that in as much as there are ICT facilities for agricultural education programme in colleges of education in North-East Nigeria, the facilities are not only inadequate and non-functional, even the functional facilities are rarely used by lecturers thereby affecting the quality of agricultural education students. It is also concluded that the challenges confronting the utilization of the available ICT facilities might be overcome when the right strategies such as employment of technical staff that would be responsible for the maintenance of the ICT facilities.

Recommendations

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

1. ICT experts should be involved in the procurement of ICT facilities to ensure that only quality facilities that can stand the taste of time are purchased.
2. Management of Colleges of Education should endeavor to provide enough ICT facilities proportional to the number of students for effective teaching and learning.
3. Management of Colleges of Education should always engage ICT technical staff charged with the responsibility of maintenance and repairs of the ICT facilities for continuous use.
4. Agricultural education lecturers should undertake training in the use of ICT facilities for effective instructional delivery.
5. The school agricultural education programme of Colleges of Education are advice to go into partnership with industries in order to address challenges confronting them.
6. An enlightenment campaigns be carried out to sensitize agricultural education lecturers to develop positive attitude towards the use of ICT facilities in teaching Agricultural Education.
7. Data be subsidize or made free of charge to agricultural education lecturers and students to promote the ICT utilization in the teaching and learning of agricultural education.

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