



Assessment of the Utilization of Instructional Facilities for Teaching Agricultural Education Students in Colleges of Education in North East Zone, Nigeria

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ABSTRACT

The work assessed the “utilization of instructional facilities for teaching agricultural education students in colleges of education in north east, Nigeria” two (2) objectives guided the study. two(2) research questions were answered and two hypotheses were tested at 0.05 level of significance. The population of the study comprised of all the two hundred and sixteen (216) Agricultural Education teachers in the eleven (11) Colleges of Education in north east zone, Nigeria and eight hundred and thirty-five (830) agricultural education students making a total of one thousand and forty-six respondents. The study adopted census sampling technique. A survey research design was employed for the study, The study revealed that instrument used for data collection was structured questionnaire, the findings of the study revealed among others seventy two percent (72%) of the instructional facilities required for teaching agricultural education in COE in NE Nigeria were not available, the study also showed that sixty two percent (62%) of the instructional facilities required for teaching agricultural education in COE in NE Nigeria were not functional the hypothesis tested also revealed that, the p-value calculated of 0.375 is less than the critical value of 1.96 at 0.05 level of significance thus, the null hypothesis was accepted, therefore there is no significant difference in the mean rating of the teachers and students on the extent of utilization of instructional facilities in COE in north east zone Nigeria among others. The study concluded that instructional facilities for teaching agricultural education were not utilized in colleges of education in north east zone, Nigeria. The study also revealed that teachers and students face so many challenges in the process of utilizing instructional facilities the recommendation made include among others Teachers and students should be encourage by the college management to utilize the instructional facilities during instructional delivery.

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INTRODUCTION

The use of instructional facility is indispensable in the teaching process. They are essential tools which enhance the assimilation, comprehension, application and retention of concepts in any subject. Instructional facilities are used to make teaching more meaningful and comprehensible to learners. Instructional facilities

are therefore regarded as those facilities used by a teacher to simplify their teaching. They include both visual and audio-visual aids and could either be concrete or non-concrete. These instructional facilities bring life to learning by stimulating students to learn. The use of instructional facilities in the classroom has the potential to help the teacher explain new concepts clearly, resulting in

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better student understanding of the concepts being taught. However, they are not ends in themselves but they are means to an end (Kadzera, 2006). Instructional facilities assist teachers to make their lessons explicit to learners; they are also use to transmit information, ideas and notes to learners. Olulobe (2018) says beyond the immediate educational goal is the question of how to provide the 'best education' to form the next generation of competent leaders from community to the national and global levels, and this would be achieved through different strategies and techniques.

According to Adanma (2019). instructional facilities are print and non-print items that are designed to impact information to students in the educational process. Instructional facilities include items such as prints, textbooks, magazines, newspapers, slides, pictures, workbooks, electronic media, among others, ubulom and Ogwunte (2017) noted that whenever instructional facilities are utilized, they generate greater students' interest in the learning process. This means that teaching could be less interesting without the use of instructional facilities. According to Oyinloye, O. T. & Oluwalola, F. K. (2014). Modern office instructional facilities in office technology and management in Polytechnics: a means to insecurity management in Nigeria. ABEN Conference Proceedings, 1, 125-133.

Oyinloye and Oluwalola (2014) the use of instructional facilities gives the learner opportunity to touch, smell or taste objects in the teaching and learning process. Apart from their ability to enhance learning, instructional facility could help teachers widen their scope of knowledge and experience therefore the availability and utilization of instructional facility for effective teaching of agricultural education is indispensable.

Utilization is the proportion of the available time (expressed usually in percentage) that a piece of teaching facilities or instructional facility is being used. It is the ratio of when teaching facility is used (working) divided by the time it is available. Utilization, according to Raghu (2009) is the primary method by which asset

performance is measured and business determined. It is the transformation of a set of input into goods or services (Stone, 2020). It involves creation of value in things. Utilization is the primary technique wherein success and performance efficiency are determined. This is especially in the case with tools and equipment. The term is also used to describe the act of using materials, products and services to make things function, extend the lifespan of machineries, improve durability of materials and other things that can lead to better performance and less risk of damage. Utilization of instructional facilities is the process of using procured and accessible facilities, tools, components, equipment and appliances to make teaching and learning process easier, interesting and rewarding.

Challenges faced by teachers in the use of Instructional facilities in teaching process pose a formidable challenge to the agricultural education teacher, who may be almost paralyzed by number of problems. However the use of practical instructional facility can simplify the learning process to a great extent. In order to ensure an effective teaching learning process, it is important for the teacher to be thoroughly acquainted with the teaching resources and services available to him. Instructional facilities for agricultural education subjects' instruction facilities at colleges are not adequately available; how to make the best instructional use of those available with the modern innovation are grossly lacking and faced with a lot of problems in its use by teachers (Aneale, 2000; 2004; Bello & Shuaibu, 2013; Medugu, 2009; Umunadi, 2009; Taale & Mustapha, 2014).

Some of the revealing problems as highlighted includes: poor teachers' professional knowledge and technical know-how to teach practical skill content areas, Low teacher competence in the area of effective instructional resource utilization, failure to appreciate the importance of using instructional facilities in promoting and understanding of the principles of instructional facility utilization, insufficient awareness of types of instructional facility for use in teaching different contents., insufficient time allocation to accommodate effective instructional



facilities utilization in the class room., lack of finance to acquire or improvise needed instructional facilities.

Environmental factors such as little or non-availability of equipped library, laboratories, workshops, water supply, electricity and personnel also affects effective utilization of instructional facilities and poor maintenance culture of instructional facilities especially projected and manipulative type. Educational programme can only be successfully implemented with the proper utilization of instructional facilities and the ability to overcome the challenges faced by teachers in the utilization of the facilities during teaching and learning process. Based on the above statements, the teacher alone cannot provide all the needed condition for an effective teaching and learning process, other supporting facilities should be provided. The students learn better when most of the senses are appealed to.

STATEMENT OF THE PROBLEM

Colleges of Education in the study area are expected to have teachers, competent teachers that can utilize the instructional facilities appropriately but most of the agricultural education teachers especially were the researcher came from. The above statement that is lack of utilization of instructional facilities are in the literature of Ibrahim (2000), who stated that in most of the colleges instructional facilities are not judiciously used as it ought to be. Many teachers teach in without using the required instructional facilities.

More so, Gujjar et al. (2010) were of the opinion that the proper utilization of instructional facilities would improve the performance and output of the institutions. Based on the above statement, if such problems are left unchecked, it will definitely make teaching very tedious, uninterested boring and worse, which will affect the student performance in the class and outside the class room, such as decline in fish farming, poultry production, food crop production and so on, since they are all trained by Agricultural teachers which if not addressed properly it will definitely affect the overall performance of the students in the subject (Agricultural Education).

Purpose of the Study

The main purpose of this study was to assess the Utilization of instructional facilities for teaching of agricultural education Students (AE) in Colleges of Education in north east zone, Nigeria. The specific objectives were to:

1. Determine the extent of utilization of instructional facilities among Agricultural Education teachers in Colleges of Education in north east, Nigeria
2. Determine the challenges in the utilization of instructional facilities in teaching and learning Agricultural Education in Colleges of Education in north east, Nigeria

Research Questions

The following research questions were formulated to guide the study viz:

1. What is the extent of utilization of instructional facilities for teaching and learning Agricultural Education in Colleges of Education in north east, Nigeria?
2. What are the challenges in utilization of instructional facilities in teaching and learning Agricultural Education in Colleges of Education in north east, Nigeria?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 levels of Significance.

Ho₁: There is no significant difference in the mean responses of teachers and students on the extent of utilization of instructional facilities in Colleges of Education in north east, Nigeria

Ho₂: There is no significant difference in the mean responses of teachers and students on the challenges in the utilization of instructional facilities in Colleges of Education in north east, Nigeria

METHODOLOGY

A survey research design was employed for this study. The design was used for descriptive, explanatory and exploratory purpose



(Kabir, 2016) therefore the design was considered appropriate for this study because it allows collection of data for the purpose of describing a given phenomenon which is assessment of instructional facilities for teaching Agricultural Education in COE in north east zone, Nigeria.

This study was conducted in the North East (NE) Nigeria, the NE zone of Nigeria comprises six states, namely, Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe, this zone is mostly known for farming and business which contributes to the economy of the country. The zone is located within latitude 6.26° North and longitude 4.92° East of the equator. Its total land area is 18, 971, 965km² (Anyeche, 2007). The NE zone shares an international border with Republic of Cameroon to the east and to the south east, Niger Republic to the North, Chad Republic to the North East and local boundaries with Plateau, Kano, Jigawa and Benue states. The area of study has 11 accredited Colleges of Education. The Population for this Study comprised all the two hundred and sixteen (216) Agricultural Education teachers, in the eleven (11) Colleges of Education in north east zone, Nigeria and eight hundred and thirty five (830) agricultural education students making a total of one thousand and forty six respondents

The study adopted census sampling technique which involved the use of the whole teachers in the eleven COE in the study area with a total of two hundred and sixteen teacher (216). This was due to the limited number of the respondents in the study area, the afore statement is in line with the assertion of creswel (2019) who stated that when a population is not large the whole population would be used for the study therefore the number of respondents obtained from each college were put together to get the total population of the study likewise for the students the whole population of NCE III students of 2024/2025 academic session were involved in the study

The instrument used for data collection was structured questionnaire. The instrument was designed by the researcher and was titled: Utilization of instructional facilities for teaching Agricultural Education subjects' questionnaire

(UIFTAEQ).The instrument was divided in two section A & B Section A focused on extent of utilization while section B focused on challenges of AE teachers and students in utilization of instructional facilities.

Extent of utilization of instructional Facilities among Agricultural Education Teachers in COE in the Study

Extent of Utilization	Points
Highly utilize (HU)	4
Moderately utilize (MU)	3
Slightly utilize (SU)	2
Not utilized (NU)	1

Challenges faced by teachers in the use of instructional facilities in teaching process.

Strongly Agree	(SA) =	4Point
Agree	(A) =	3Point
Disagree	(DA) =	2point
Strongly Disagree	(SD) =	1point

The instrument was divided into sections for easy understanding by the respondents and these are : Section A: Extent of utilization of instructional Facilities , Section B Challenges faced by Teachers in the use of instructional facilities in Teaching and learning process. The instrument was subjected to face validation by three experts, one from the Department of educational foundation, Faculty of Education, University of Jos two from Department of Agricultural Education FCE(T) Gombe

In order to ensure the internal consistency of the research instrument, the researcher conducted a trial testing of the instrument. Thirty (30) copies of the questionnaires on utilization of instructional facilities for teaching Agricultural Education (UIFTAEQ) were administered to the teachers in Federal College of Education, Zaria, Kaduna State, which was outside the study area. The data collected from the pilot test were coded and subjected to split halve method where odd and even numbers on the instrument were analyze using Statistical Package for Social Sciences (SPSS) Cronbach Alpha reliability method was

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used to determine the internal consistency of the items of the instrument and a reliability coefficient of 0.907 was obtained.

For the researcher to have access to the respondents, an introductory letter was obtained from the office of the Head of Department of Agricultural Education, Federal college of education (Technical) Gombe, to various colleges for permission to help in assessment of utilization of instructional facilities for teaching Agricultural Education students in the study area. The letter introduces the researcher and the purpose of the study. The letter also solicited for any kind of assistance the researcher may require. The instruments for data collection were administered to the respondents in the eleven Colleges of Education in the North East after the permission was granted to the researcher in some of these colleges, trained research assistants. Were equally involve in the data collection, a period of two weeks were given to the respondents to fill the questionnaire before retrieval; to enable them read thoroughly and understand the items on the

questionnaire before responding to them, finally the filled instruments were retrieved 92% from the respondents and utilized

On completion of the questionnaire, responses were converted to numerical values and analyzed using simple percentage, mean and standard deviation. The mean and standard deviation were used for research questions 1, the simple percentage was used for research questions 1 & 2, in order to establish the degree of agreement or disagreement in each of the item statements, values were used to establish cut off points, which were used as basis for judgment (decision). The afore statement is in line with the assertion of (Abdumumini, 2018). while p-value was used to test the null hypotheses at 0.05 levels of significance.

RESULTS

Research Question One

What is the extent of utilization of instructional Facilities for Teaching and learning Agricultural Education in COE in the study area?

Table 1: Mean and Standard Deviation of Teachers and students on the level of utilization of Instructional Facilities for Teaching Agricultural Education in COE in North East, Nigeria utilized =U, Not utilized =NU, Moderately utilized =MU, Slightly utilized= SU (n₁=216) (n₂=830)

S/N	ITEMS	Teachers		Students		X Average	REMARK
		X ₁	SD	X ₂	SD		
1	Our Mechanical workshop was frequently utilize during teaching and learning process	1.50	.755	1.00	.752	1.25	NU
2	Our livestock unit was mostly utilize during teaching and learning process	2.12	.928	1.13	.628	1.63	SU
3	Our Fish pond was not utilize during teaching and learning process	1.98	.749	1.92	.649	1.92	MU
4	Individual students' plots were not utilize as when due	2.93	1.083	2.13	.380	2.53	MU
5	Experimental plot for research was not allocated to students	2.12	.763	2.25	.863	2.19	SU
6	We uses our Crop farm every season for teaching and learning process	2.96	1.049	2.22	.749	2.59	MU
7	Facilities for	1.42	.884	1.41	.784	1.49	NU

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S/N	ITEMS	Teachers		Students		X	REMARK
		X ₁	SD	X ₂	SD	Average	
9	Beekeeping were highly utilize during teaching and learning process	1.87	.872	1.33	.752	1.8	SU
10	Current journals in agricultural education were mostly use for reference purposes	1.94	.765	1.00	.565	1.47	NU
11	Use of current journals in other relevant field in the ratio of ten books tithes to one student were practice in my college	1.80	.820	1.20	.720	1.5	NU
12	A tractor coupling implements, eg. plough (plow) harrow ridger, spreader etc were highly utilize during instructional delivery	1.91	.884	1.34	.984	1.63	SU
13	Teachers utilizes overhead projector during instructional delivery	1.52	.849	1.34	.649	1.43	NU
14	Public address system was sometimes utilize by teachers during class room interaction	3.12	.953	3.09	.953	3.11	MU
15	Arable farm was allocated to students every season	2.96	.973	3.56	.673	3.25	MU
16	Horticultural garden was allocated to students for practical work	1.16	.739	1.03	.839	1.95	SU
17	Processing facilities for: tubers were utilize in our school farm during instructional delivery	1.54	.732	1.03	.632	1.29	NU
18	Processing facilities for: fruits were utilize in our school during teaching and learning process	1.74	.747	1.14	.647	1.44	NU
19	Storage facilities for tubers were often utilize in our teaching and learning process	2.64	.944	2.40	.454	2.52	SU
20	Generator machines were mostly use for the purpose of instructional delivery especially when there is no steady power supply	3.04	.937	3.67	.597	2.86	SU
21	Planting hoes were mostly use in our teaching of practical agriculture	2.39	.805	2.19	.125	2.29	SU
	Wheelbarrows were use as specimen and other purposes in our practical class						

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S/N	ITEMS	Teachers		Students		X	REMARK
		X ₁	SD	X ₂	SD	Average	
22	Watering cans were use during our practical lesson	3.29	.918	3.22	.928	3.26	MU
23	I use a Head pan as specimen during practical agriculture	2.06	.764	2.06	.924	2.06	SU
24	We use Field book for farm records	2.24	.783	3.30	.782	2.77	MU
25	A tractor was use in making ridges for the purpose of instructional delivery in our college	1.17	.777	1.15	.837	1.16	NU
26	We utilized Seed cleaner during planting for instructional purpose	1.04	.770	1.04	.730	1.16	NU
27	Cereal thresher were use in teaching, learning and other related activities	1.46	.733	1.16	.845	1.31	NU
28	Teachers were using scrap tractor in exhibiting tractor parts to students	1.86	.752	1.26	.834	1.56	SU
29	Complete tool boxes were utilize during our agricultural mechanization courses	1.41	.764	1.11	.749	1.26	NU
30	Students were being taught hatching related knowledge using incubator machine	1.77	.755	1.07	.738	1.74	SU
31	Egg handler was the only facility we use in teaching eggs handling in our college	2.04	.795	2.24	.749	2.14	SU
32	Students were using de-beaker in the teaching and learning of poultry production in our department	2.42	.859	2.92	.834	2.67	MU
33	Students receives a practical knowledge of animal vaccine process in my college	1.65	.872	1.35	.834	1.5	NU
34	students use Manual maize planter in learning planting related facilities	1.10	.857	1.40	.838	1.25	NU
35	Teachers were utilizing Powered maize sheller during their instructional process	1.48	.800	1.98	.459	1.73	SU
36	Students were being taught how to dry their grains using Grain drier	1.07	.842	1.47	.492	1.27	NU
37	Manure spreader was mostly utilize by agricultural education teachers in our institution	1.82	.857	1.22	.849	1.52	SU

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S/N	ITEMS	Teachers		Students		X	REMARK
		X ₁	SD	X ₂	SD	Average	
38	Mowers parts and utilization were shown to students in their agricultural mechanization class	1.01	.862	1.11	.845	1.08	SU
39	Silos were seen by students during teaching of storage facilities	1.24	.846	1.84	.942	1.54	SU
40	Cold room and deep freezer was shown to students in animal production class	1.85	.907	1.35	.909	1.6	SU
41	Refrigerators were sometimes used during instructional delivery	2.41	.823	2.41	.891	2.41	SU
42	Milling machine was used by teachers during teaching	1.01	.778	1.04	.783	1.03	NU
43	Post mortem kit was sometimes used in teaching animal production courses	1.06	.958	1.07	.932	1.07	NU
44	Surgical kit was used in teaching and learning process.	1.28	.849	1.22	.834	1.25	NU
45	Cattle hoof trimming set was shown to students in their lessons	1.39	.782	1.11	.782	1.25	NU
46	Teachers demonstrated to students how hoof trimming set was used	1.39	.782	1.59	.781	1.49	NU
47	Castrators were used in teaching castration of animals during animal production class	2.76	.809	2.25	.890	2.76	SU
48	Sterilizers were used by teachers and students after practical class	1.52	.827	1.43	.892	1.48	NU
49	Identification tags were shown to students during teaching and learning process	2.17	.932	2.37	.993	2.27	SU
50	Teachers demonstrated to the students how to use hanging scale for measurement	2.92	.755	2.33	.753	2.63	MU
51	Teachers used chicks' trays in raising chicks during instructional delivery	4.97	.755	3.55	.753	4.26	HU
52	Canopy brooder is mostly used by students and teachers instead of natural shade	2.75	.755	2.76	.934	2.76	MU
53	Kerosene stove was used by teachers and students during poultry production for instructional purpose	1.23	.943	1.23	.843	1.23	NU
54	Brooding thermometers	1.09	.755	1.43	.943	1.26	NU

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S/N	ITEMS	Teachers		Students		X	REMARK
		X ₁	SD	X ₂	SD	Average	
55	Livestock skeletons was use by agricultural education teachers	1.57	.663	1.67	.683	1.62	SU
56	Essential water supply (e.g. ponds, dam, well or reservoir) were use for demonstrating to the students how to irrigate their crops	2.53	.760	2.51	.943	2.52	MU
Grand Mean		1.60		2.40		2.20	

Source: Field Survey, 2024

The results presented in Table 1 showed the mean and standard deviation of extent of utilization of instructional facilities for teaching and learning of agricultural education in the Study area. The result revealed that out of the 98 items presented to the respondents, 51 items were not utilize, 30 items were slightly utilized, 15 items were moderately utilized and none of the facilities that is highly utilized, the overall result in respect to the above research question is that only 18 items had the mean score above 2.50 while 80 items had less than 2.50 which indicates that instructional facilities for teaching and learning

agricultural education in the study area were not utilized, the decision rule used for this is, if a mean respond on the instrument had 2.50 and above such facility is regarded as utilize otherwise not utilize, therefore the result revealed that grand mean of 2.20 which indicated that instructional facilities for teaching agricultural education in COE in the study area were not utilized.

Research Question Two

What are the challenges in the utilization of Instructional facilities in teaching and learning Agricultural Education in COE in the Study area.

Table 1: Mean and Standard Deviation of Teachers and Students' responses on the challenges in the utilization of Instructional facilities in teaching Agricultural Education in COE in north east, Nigeria (n₁=216) (n₂=830)

S/N	Items	Teachers		Students		X	Rmk
		X	SD	X	SD	Average	
1.	Mechanical workshop activities	1.98	.690	1.12	.590	1.55	SA
2	livestock management	3.70	.704	3.64	.392	3.67	SA
3	Management of Fish pond	3.87	.622	3.17	.623	3.52	SA
4	Management of student plots For farm practical	2.92	.062	2.72	.234	2.82	A
5	Experimental plot for research	2.75	.626	2.65	.234	2.7	A
6	Management of Crop farm	3.65	.640	1.65	.634	2.85	A
7	Utilizing Facilities for Beekeeping	1.73	.645	1.53	.648	1.63	DA
8	Current journals in agricultural education	1.89	1.059	1.29	.843	1.50	DA
9	Utilizing current journals in other relevant field of vocational education	2.81	1.063	2.21	.343	2.51	A
10	Repair of a tractor coupling implements, eg. plough (plow) harrow ridges, spreader etc.	1.92	1.72	1.32	.654	1.62	DA

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S/N	Items	Teachers X	SD	Students X	SD	X Average	Rmk
11	Difficulty in preperering projector presentation	1.89	.905	1.29	.728	1.59	DA
12	Difficulty in utilizing Printing machine	1.81	.753	1.41	.923	1.61	DA
13	Access to drawing tables	1.45	.884	1.15	.812	1.3	SD
14	Management of Arable farm	3.25	.849	2.25	.811	2.75	A
15	Management of Horticultural Garden	2.82	.823	2.92	.722	2.87	A
16	Utilization of Secateurs	2.92	.904	1.92	.702	2.42	DA
17	Planting hoes	2.72	.820	3.62	.626	3.17	A
18	Use of plain meter	1.13	.950	1.03	.856	1.08	DA
19	Use of Theodolite	1.84	.974	1.24	.571	1.54	DA
20	Use of Field book	3.63	.755	3.23	.652	3.43	A
21	Use of a Functional tractor	2.52	.743	2.12	.943	2.32	DA
22	Cereal thresher	2.74	.746	3.14	.643	2.94	A
23	Tractor scraps exhibiting tractor parts	3.12	.946	2.11	.744	2.62	A
24	Use of Incubator and Hatcher	3.56	.743	2.90	.942	3.23	A
25	Egg handling	3.16	.953	1.14	.852	2.54	A
26	De-beaking	2.14	.973	2.54	.875	2.54	DA
27	Use of Manual maize planter	1.74	.739	1.23	.532	1.49	SD
28	Powered maize sheller	1.16	.732	1.22	.974	1.19	SD
29	Grain drier	1.05	.747	1.02	.755	1.04	SD
30	Mowers	1.03	.743	1.56	.743	1.30	SD
31	Use of Post mortem kit	1.21	.747	1.16	.746	1.19	SD
32	Surgical kit	2.50	.833	1.05	.946	2.62	A
33	Cattle hoof trimming set	1.74	.793	2.64	.743	2.19	DA
34	Use of Cattle hoof trimmer	2.60	.783	1.40	.953	3.24	A
35	Sterilizers	3.00	.944	1.00	.973	2.05	SD
36	Identification tags	2.53	.755	1.43	.739	2.78	A
37	Tattooing set	3.19	.937	2.16	.732	2.68	A
38	Candler	3.04	.922	2.54	.747	2.68	A
39	Hanging scale	2.74	.928	2.39	.743	2.57	A
40	Chick's trays	3.29	.755	2.36	.747	2.83	A
41	Canopy brooder	3.05	.805	2.06	.833	2.56	A
42	Kerosene stove	3.03	.918	2.14	.793	2.59	A
43	Brooding thermometers	1.04	.764	1.21	.783	1.13	SD
Grand Mean:		2.26		1.74		2.14	

X=Mean SD=standard deviation
Source: Field Survey, 2024.

The results presented in Table 2 showed the mean and standard deviation of challenges in the utilization of instructional

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facilities for teaching and learning of agricultural education in the study area, the result revealed that out of the 43 items presented to the respondents, only 20 items had the mean score of 2.50 and above while 23 items had less than 2.50 which indicates that there were challenges faced by teachers and students in utilization of instructional facilities for teaching agricultural education in the study area.

The decision rule used for this was, if a mean response had a mean of 2.50 and above, such facility is regarded as agreed otherwise

disagreed, therefore the result revealed that mean average of 2.14 were obtained which indicates that there are challenges faced by teachers in utilization of instructional facilities for teaching agricultural education in the Study area

Hypothesis Testing

Ho₁: There is no significant difference in the mean response between Teachers and students on the extent of utilization of instructional facilities for teaching of Agricultural Education in COE in north east zone Nigeria.

Table 1: Z test of Teachers and Students on the extent of Utilization of Instructional Facilities for Teaching of Agricultural Education in COE in North-east zone Nigeria

Participants	N	X	SD	df	t-value	P-Value	Remark
Teachers	216	1.60	0.19	1.96	0.24	0.375	Not significant
Students	830	2.40	0.32				

The statistical tool used in testing the hypotheses was presented in Table 1. The analysis in Table 1 revealed that, the p-value calculated of 0.375 is less than the critical value of 1.96 at 0.05 level of significance thus, the null

hypothesis was accepted, therefore there is no significant difference in the mean rating of the teachers and students on the extent of utilization of instructional facilities in COE in north east zone Nigeria.

Table 2: Z test of Teachers and Students rating regarding the Challenges in the Utilization of Instructional Facilities in COE in north east zone Nigeria.

Participants	N	X	SD	df	t-value	p-value	Remark
Teachers	216	2.26	0.35	214	.928	.075	Not Significant
Students	830	1.74	0.18				

Table 2 showed the z test analysis of teachers and students. The t-value calculated of .928 is less than the critical value of .075 at 0.05 level of significance thus, the null hypothesis is accepted, therefore there is no significant difference in the mean rating of the teachers and students on the challenges in the utilization of instructional facilities in COE in north east zone Nigeria.

CONCLUSION

Based on the findings of this study, it was concluded that instructional facilities for teaching agricultural education were not utilized in colleges of education in north east zone, Nigeria. also the study revealed that teachers and students

face so many challenges in the process of utilizing instructional facilities

RECOMMENDATIONS

1. Teachers and students should be encourage by the college management to utilize the instructional facilities during instructional delivery
2. Teachers of each department should work in synergy to assist themselves to overcome their challenges.

REFERENCES

- Abdulummini, U. Gabriel, O. Mohammed, M. Usman, A. Usman, A. Umar, A.S. Aliyu, Z.T.(2018).Availability and adequacy of equipments for Teaching Practical



- Agriculture in Federal Colleges in north east zone, Nigeria. *Journal of association of vocational and Technical education of Nigeria. (AVTEN)*. 28(1)page 36-43
- Adanma, N.O. (2019).Utilization of Instructional Facilities and Academic Performance of Students in Public Secondary Schools in Rivers State, *Advances in Social Sciences Research Journal* .6(2)65-89
- Aneale, E. (2005). Electrical/electronic skills needed by technical colleges' students for self-employment. *Journal of Vocational and Adult Education* 4(1) 27- 35
- Anyaeche, C. (2007).*The 2006 Nigerian Census Figure* Retrieved on 25/07/2015 from <http://nigeriaworld.com/articles/2007/jan/12html>
- Anyaeche, C. (2007).*The 2006 Nigerian Census Figure* Retrieved on 25/07/2015 from <http://nigeriaworld.com/articles/2007/jan/12html>
- Bello, H. & Shu'aibu, B. (2013). State of Facilities for Teaching Electrical Installation and Maintenance Work Trade in Technical Colleges in Bauchi State, Nigeria. *International Journal of Vocational and Technical Education*, 5(5), 82-91. <http://www.academicjournals.org/IJVTE>
- Creswell, J. W., Wheeler, D. W., Seagren, A. T., Egly, N. J., & Beyer, K. D. (1990). The academic chairperson's handbook. Lincoln and London: University of Nebraska Press.
- Gujjar, A. A., Khan, N., Baig, M. N., Ramzan, M., & Saifi S. (2010).A Study to Evaluate the Availability and Utilization of Physical and Instructional Facilities in Secondary Schools of Bajaur Agency Pakistan.
- Ibrahim, A. (2016). School factors influencing adoption of information communication technology in teaching and learning in secondary schools in Westlands, Kenya. (Master's thesis). University of Nairobi, Kenya
- Kabir, S.M. (2016). Methods of data collection. Curtin University Retrieved from <http://www.researchgate.net/publication/325846997>
- Kadzera, C.M., (2006).Use of instructional technologies in teacher training colleges in Malawi. Dissertation, Virginia Polytechnic Institute and State University.
- Medugu, J.D. (2011). Effectiveness of a digital oscilloscope for the teaching of some radio, television and electronics work concept at technical colleges level. Unpublished Ph.D Thesis.AbakarTafawa Balewa University, Bauchi, Nigeria.
- Olulube, N.P., & Ubogu, A. E. (2018).ICT and distance education.in A Cartelli& M. Palme (Eds.).*Encyclopedia of information and communication technology* (pp. 396-400). USA: Information Science Effective utilization and maintenance of ICT for quality teaching and learning outcome in *Nigeria International Journal of Research Studies in Educational Technology* 1(1)39-49
- Oyinloye, O. T. & Oluwalola, F. K. (2014). Modern office instructional facilities in office technology and management in Polytechnics: a means to insecurity management in Nigeria. ABEN Conference Proceedings, 1, 125-133.
- Raghu, U. (2009). Utilization of economic resources.Retrieved from [www.google .com](http://www.google.com) on 6/5/13.
- Shuaibu I., Edebo C. & Ishaka, M.I.(2019).Problems and strategies for the management of school facilities for effective instructional delivery in federal and state colleges of education in north central states of Nigeria *Ewemen Journal of Education Research & Review*Available online at <http://ewemen.com/category/ejp> 1(2)58-66
- Stone, D. (2020). Teaching in progress, New York: Macmillan Publishing Co. Inc.studies in public secondary schools in Rivers State, Nigeria. *International Journal of InnovativeEducation Research* 2,126-132
- Taale, K. D. & Mustapha, B. (2014).Effects of teacher – constructed electrical models on students' academic achievement in basic electricity in technical colleges of Bornostate, Nigeria.*International Journal of Innovative Social & Science Education Research*, 2(1), 16-25.
- Ubulom, W. J. & Ogwunte, P. C. (2017). Evaluation of instructional resources for teaching business Ever Blessed Publishers
- Umunadi, K. E. (2009). Teacher utilization of instructional equipment and materials in teaching basic electricity in urban and rural technical colleges. *International Journal of Scientific Research in Education*, 2(2),88-95. Retrieved December 24, 2010 from <http://www.ij sre.com>.

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