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EVALUATING THE IMPLEMENTATION OF NCE AGRICULTURAL EDUCATION PROGRAMME IN COLLEGES OF EDUCATION IN ENUGU AND EBONYI STATES OF NIGERIA

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ABSTRACT

The study evaluated the implementation of NCE agricultural education programmes in colleges of education in Enugu and Ebonyi states of Nigeria. Descriptive survey design was adopted in conducting the research and four research questions were formulated to guide the study. A well-structured questionnaire was the instrument used to elicit data for the study. The population of the study consists of 60 (48 lecturers and 12 instructors/technologists) that teach agricultural education in the colleges of education in Enugu and Ebonyi States. The data collected were analyzed using mean and standard deviation. It was found among others that the facilities and material resources for teaching agricultural education were highly available and utilized, that the course contents were highly adequate to produce employable graduates, while, the lecturers were competent in teaching their course contents. It was recommended that agricultural education lecturers should engage in self-improvement programmes so as to remain relevant and current in the job and that current and relevant facilities should be bought by the school authorities and regulating bodies to make teaching and learning easy and interesting.

Keywords: Agricultural Education, Implementation, Entrepreneurship, Employment, Graduation.

Introduction

Globally an increasing pace of technological advancement exists. This has created numerous job opportunities thereby creating a demand of change and improvement in the training programmes of the agriculture workforce. Technology has had a profound impact on the development of agriculture around the world. This has made farming/agricultural methods to drastically change due to modern technologically innovations in irrigation systems, farm machinery, crop storage, biotechnology and genetic engineering. As a result of this the skill requirements for graduates in the job market is demanding as they are required to acquire a lot of emerging technological skills and competencies (Cummings, 2019).

The Nigeria Certificate in Education (NCE) programme in agricultural education is a 3-year programme designed to prepare students for careers in teaching and related fields. Philosophically the programme aims at producing teachers endowed with a balanced approach between principles and practice of agriculture for academic and vocational ends. The objectives of the programme according to National Commission of Colleges of Education, NCCE (2020) is to:

1. Prepare graduates with the right attitude to, and knowledge/ professional competence in vocational agriculture
2. Produce teachers who will be capable of motivating students to acquire interest in aptitude for agriculture.
3. Develop in the student-teachers the appropriate communication skills for effective transmission of agricultural information, knowledge and skills to the students in the content of their environment
4. Equip the student-teachers with adequate knowledge and ability to establish and manage a model school farm effectively; and
5. Provide a sound background to enhance further academic and professional progression of the student teachers.

From the above objectives, the agricultural education programme is meant to prepare student teachers to face the global challenge of agricultural development with respect to teaching and learning by endowing on them the required psycho-productive skills, knowledge and attitude in contemporary agricultural production strategies (Oguntunde, Maghra and Kangare, 2019). In order to achieve the above objectives, Ugwuogo (2017) categorically stated that the old and usual traditional face-to-face and teacher dominated classroom interaction alone can no longer maximize teaching and learning experiences. This is because many technological devices such as smartphones, tablets, laptops, virtual reality handset, interactive white board, document cameras, internet, and other computer application packages are becoming the order of the day in most countries, Nigeria inclusive.

The question here is how far has the graduates of this programme be better placed and honoured in the society by been employable based on their theoretical and technical know-how after graduation. According to Oguntunde etal (2019) it is unfortunate that most graduates from various agricultural disciplines end-up unemployable due to lack of country-level labour market assessment that are necessary to align content and instruction with unemployment outcomes (Wallace, 2007). There is the need therefore for there to be a reform in the agricultural education and training system to inculcate relevant and contemporary entrepreneurial courses in its curriculum and pedagogical approaches to produce human resources that can match knowledge, skill and attitude for sustainable food security and improve standards of living for the teaming population.

Different people have viewed entrepreneurship differently. In a simple sense entrepreneurship is the development of the mind to identify opportunities and venture into them to make profit. Agriculturally, it is the ability of a developed mind to identify opportunities tied to an agricultural venture, explore the opportunity by venturing into it consistently with a view of making profit. Nwafor (2007) supporting this, define entrepreneurship as the willingness and ability to run an enterprise successfully based on identified opportunities. According to Chukwuemeka (2018), entrepreneurship education is the education provided to develop individuals in

the skills, attitudes, competencies, beliefs and perspective of conceiving planning and starting an enterprise for sustained benefits. The benefits of inculcating entrepreneurship education in the NCE training programme of agricultural education cannot be overemphasized as it will help to expose the student –teachers to cognitive, affective and psychomotor abilities that will enable him to be self–sufficient, self-reliant, sustainable and also a potential employer of labour.

The Federal Republic of Nigeria (FRN, 2020) in the minimum standards for Nigeria Certificate in Education by the National Commission for Colleges for Colleges of Education (NCCE) only One agricultural entrepreneurship course is taught and that is AGE 217 (Entrepreneurship in Agriculture). In the words of Eze and Ugwu (2017), only one entrepreneurship course is not enough. This is because entrepreneurship courses are meant to prepare graduates to become entrepreneurs or entrepreneurial thinkers. According to Paul (2017), the place of entrepreneurship training in post secondary education cannot be overlooked, as it is a powerful engine of economic growth and wealth creation. It has several multiplier effects on the economy of the nation as it spurs innovation and fosters investments.

In addition to this, not all the required facilities and material resources are available for teaching and learning agricultural education under the NCE programmes. The unavailability of any required facility is disadvantageous .This is because facilities and material resources are essential for effective teaching and learning. Without these resources, it would be difficult for teachers to deliver their lessons and capture the interest of the students effectively. Some of these facilities/ material resources which are also called instructional materials necessary for teaching and learning agricultural education among others include plant and animal laboratories, school farm/orchard, experimental plots, piggery, poultry, fish pond, library, tractor with coupling implements such as ploughs, harrower, ridger and spreader, poultry and piggery.

As a measure to keep agricultural education and training in tune with the knowledge and skill required in the world of work, the programme should be evaluated to determine whether agricultural education programme provides the needed competencies, attitudes, skills and knowledge needed. The evaluation will however, help to enrich and update it in line with changes that are frequently taking place globally.

Statement of the problem

Despite the numerous grandaunts agricultural education programme has produced, there is limited research available on the implementation of its National Certificate in Education (NCE) programme in colleges of education in Nigeria. The lack of evaluation of this programme poses a potential problem for its effectiveness and the quality of agricultural education in the country. An overview of the agricultural education programme shows that most of its graduates are unemployable as they lack the required skills, attitudes knowledge and competencies. Evaluating the implementation of the programme will help to identify the areas of weakness or

inefficiency and improve the programmes effectiveness. It will help to ensure that the programme is meeting its objectives and the needs of its target audience. It will also help to build public confidence in the programme and demonstrate its value to stakeholders, which will in turn encourage more students' enrolment and strengthen their employability upon graduation.

Purpose of the study

The purpose of this study is to evaluate the implementation of NCE agricultural science education programme in colleges of education in Enugu and Ebonyi States. Specifically the study sought to:

1. Ascertain the availability of facilities and material resources required for teaching agricultural education in Colleges of Education in Enugu and Ebonyi states of Nigeria.
2. Determine the extent of utilization of material resources for teaching agricultural education in Colleges of Education in Enugu and Ebonyi States of Nigeria.
3. Assess the extent to which agricultural education programme contents meet the employment needs of the graduates
4. Ascertain the extent to which agricultural education lecturers are competent in instructional delivery to enhance job skills and entrepreneurship development.

Research questions

1. To what extent are the facilities and material resources required for teaching agricultural education available in the study area?
2. To what extent are the required material resources for teaching agricultural education in College of Education utilized in Enugu and Ebonyi States of Nigeria?
3. How adequate are agricultural education curriculum contents in meeting the employment and job creation needs of NCE agricultural education graduates?
4. What is the extent to which the lecturers in agricultural education show competence in instructional delivery to enhance job skills and entrepreneurship development?

Research Method

The researchers adopted a descriptive survey design in conducting this study. According to Anyakoha (2009), descriptive survey design uses questionnaire, interview and observations to determine the opinions, attitudes, preferences and perceptions of people. Descriptive survey design was considered appropriate for this study as it elicits information from the respondents on NCE agricultural sciences programme in College of Education. The study was carried out in Enugu and Ebonyi States in South East, Nigeria. Three Colleges of Education offering agricultural education were selected. These are Federal College of Education, Eha-Amufu, Enugu State, College of Education (Technical), Enugu and Ebonyi State College of Education, Ikwo. The population for the study was 60, consisting of 48 lecturers who teach agricultural education and 12 instructors/ technologists from the three selected Colleges of Education in the study area.

The instrument used for data collection was a structured questionnaire named Implementation of Agricultural Education Programme Questionnaire (IAEPQ). The Questionnaire was developed by the researchers after intensive literature review. The questionnaire consists of 70 items structured on a four point rating scale with response options of: (1) Very highly available/utilized /adequate/competent (2) Highly available /utilized/adequate/competent (3) Slightly available/ultimate/utilized/adequate/competent (4) and not available /utilized/adequate or competent.

The instrument was face validated by three experts of agricultural education department of Federal College of Education, Eha-Amufu. Their corrections improved the structure and wordings of the questionnaire. Cronbach alpha reliability co-efficient was used to determine the internal consistency of the items in the questionnaire instrument, and it yielded a reliability co-efficient of 0.89. The instrument was administered on the respondent through personal contacts by both the researchers and research assistants. 60 copies of the questionnaire were administered but 55 copies were duly completed and retrieved representing 91.6 percent return rate. The data collected were analysed using Mean and Standard deviation. The decision rule was that any computed mean scores that ranged from 2.50 and above was regarded as being very highly available or highly available, while the item that fell below 2.50 was regarded as slightly available or not available as the case may be.

Presentation of Results

Research question 1: To what extent are the facilities and material resources require for teaching agricultural education available in the Colleges of Education in the study area?

Table 1: Mean responses on rating of adequacy of facilities/ material resources (N=55)

SN	Items	X	SD	Decision
1	Tractor with coupling implements	3.09	0.78	Highly available
2	Animal and crop laboratories	3.10	0.81	Highly available
3	School farm	3.8	0.40	Very highly available
4	Mechanical tools workshop	2.55	1.07	Highly available
5	Ruminants	2.56	0.97	Highly available
6	Fish pond/fishery equipment	2.36	1.35	Highly available
7	Snailery	3.07	0.45	Highly available
8	Piggery	3.05	0.42	Highly available
9	Poultry	3.81	0.39	Very high available
10	Audio visual room	1.18	1.66	Not available
11	Drawing room	2.16	0.99	Slightly available
12	Farm tools	3.62	1.32	Very highly available
13	Survey equipment	2.7	1.09	Highly available
14	Storage facilities	3.4	0.78	Highly available
15	Food processing equipment	2.09	1.07	Slightly available
16	Animals equipments	3.04	0.96	Highly available
17	Library	3.75	0.44	Very Highly available
18	Haulage vehicle for transportation	2.14	1.09	slightly available

Table 1 above shows the adequacy of facilities/materials resources for teaching agricultural education in Colleges of Education in Enugu and Ebonyi States. The questionnaire item 10 (Audio visual room) was not adequate, items 11 (drawing room, 15 (food processing equipment) and item 18 (Haulage vehicle for transportation) were slightly adequate. Items 8 (poultry), 12 (farm tools) and 17 (library) were very highly available, while the rest were highly available.

Research Question 2: To what extent are the required material resources for teaching agricultural education in Colleges of Education utilized in Enugu and Ebonyi States of Nigeria?

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Table 2: Mean responses on rating of extent of utilizing required material resources for teaching agricultural education.

S/N	ITEMS	X	SD	DECISION
1	Tractor with coupling implements	2.69	0.9	HU
2	Animal and crop laboratories	3.22	0.8	HU
3	School farm	3.60	0.7	VHU
4	Mechanical /Tools workshop	2.8	1.0	HU
5	Livestock / Ruminant unit	2.7	1.0	HU
6	Fish pond/Fishery equipments	3.0	1.0	HU
7	Snailery/ Bee Keeping	2.7	1.0	HU
8	Piggery	3.4	0.8	HU
9	Poultry	3.6	0.6	VHU
10	Audio visual room	1.2	0.9	NU
11	Drawing room	1.9	0.99	SU
12	Farm tools	3.6	0.6	VHU
13	Survey equipment	2.6	0.9	HU
14	Storage facilities	2.5	1.1	HU
15	Food processing equipment	2.1	0.9	SU
16	Animal equipment	2.8	0.9	HU
17	Library	3.8	0.4	VHU
18	Haulage vehicle for transportation	2.1	0.9	SU

Key: VHU= Very Highly Utilized, HU=Highly Utilized, SU=Slightly Utilized, NU= Not Utilized.

The data presented in table 2 showed that item 10 (Audio Visual room) was not utilized, items 11, 15 and 18 were slightly utilized while, the rest were either highly utilized or very highly utilized. The standard deviation of most of the items that ranged between 0.4 to 0.9 implies that most of the respondents were close in their opinions.

Research Question 3: How adequate are agricultural education curriculum contents in meeting the employment and job creation needs of NCE agricultural education graduates?

Table 3: Mean and Standard Deviation of the extent of agricultural programme in meeting employment needs.

S/N	ITEMS	X	S.D	DECISION
1	Crop production courses	3.75	0.44	Very high Extent
2	Soil science courses	3.54	0.5	Very high Extent
3.	Farm management courses	3.24	1.3	High extent
4	Agric. Extension courses	2.69	1.09	Slight extent
5	Agric. Business courses	3.36	0.7	High extent
6	Agric. Business/courses	3.45	0.62	High extent
7	Economics courses	3.27	0.95	High extent
8	Agricultural engineering courses	3.73	0.45	Very High extent
9	Animal science courses	3.53	0.6	Very High extent
10	Agro-climatology courses	3.56	0.45	Very high Extent
11	Food product processing courses	3.37	0.7	High extent
12	Statistics/mathematics courses	2.29	1.08	Slight extent
13	Agricultural biology courses	3.69	0.46	Very high extent
14	Practical agricultural	3.53	0.5	Very high extent
15	Survey and farmstead planning	2.69	1.23	High extent
16	Agricultural chemistry courses	2.53	1.26	High extent
17	Agricultural physics courses	2.60	1.24	High extent
18	Marketing and cooperative courses	3.36	0.74	High extent

Table 3 above shows that five items (agric. extension courses, survey and farmstead planning, agricultural chemistry courses, agricultural physics courses, statistics and mathematics courses) will of a slight extent meet employment or job creation needs of the graduates. It further shows that six items (farm management courses, agric. business courses, Agri-prenuerial courses, animal science courses, food product/ processing courses and marketing and cooperative courses) will of a high extent meet the employment and job creation needs of graduates. however, it further revealed that the remaining seven items (crop production courses, soil science courses, agricultural engineering courses, animal science courses, agro-climatology courses, agricultural biology courses, and practical agriculture) will of a very high extent meet the employment or job creation needs of agricultural graduates.

Research Question 4: What is the extent to which the lecturers in agricultural education show competence in the instructional delivery to enhance employability of the graduates upon graduation?

Table 4: Mean and standard deviation on the competence of the lecturers in the use of instructional delivery to enhance employability of the graduates upon graduation.

S/N	ITEMS	X	SD	DECISION
1	Crop production skills	3.55	1.30	VHC
2	Soil testing and management skills	3.05	0.91	HC
3	farm management skills	3.09	0.94	HC
4	Agricultural, Extension and farmers education skills	3.35	1.34	HC
5	Agric business/ marketing skills	3.47	1.31	HC
6	Agrienprenuerial management skills	3.05	0.9	HC
7	Farm animal skill	2.85	1.15	HC
8	Farm animal production skill	3.65	1.25	VHC
9	Weather forecasting skills	3.60	1.21	VHC
10	Food product processing skills	3.42	0.71	HC
11	Farm practicum skills	2.87	0.97	HC
12	Farm surveying skills	2.55	1.04	HC
13	ICT Skills	2.45	1.00	SC
14	Power point presentation skills	2.37	1.02	SC

Key: VHC = Very Highly Competent, HC= Highly Competent, SC= Slightly Competent, NC= Not Competent

The analysis in table 4 above shows competence of lecturers in the instructional delivery to enhance job skills of the students upon graduation. Most of the mean responses indicate that the lecturers are highly competent. However, the analysis revealed that the lecturers are very highly competent in crop production skills, farm animal production skills and weather forecasting skills, slightly competent in ICT skills and power point presentation skills while they are highly competent in the remaining nine items.

Discussion of the findings

The study evaluated the implementation of the Nigerian Certificate in Education (NCE) in Agricultural Education Programme in Colleges of Education in Enugu and Ebonyi States of Nigeria. The findings of research question 1 revealed the adequacy of the facilities/materials resources needed for the teaching and learning of agricultural science education. However, the responses indicated that some facilities such as audiovisual room were not adequate and that drawing room, food processing equipment and haulage vehicle for transportation were slightly adequate. There is need therefore for the instructional facilities/materials resources needed for teaching and learning to be made available as this makes the idea of the lesson content easy to comprehend. This corroborates with the work of Ema and Ajayi (2011) that some students learn better by seeing, touching and hearing.

The finding in table 2 indicated that out of the 18 facilities/ material resources outlined for teaching agricultural education in Enugu and Ebonyi States Colleges of Education fourteen of them were highly utilized or very highly utilized. This implies that most of the available facilities/material resources are being used for the purpose of teaching and learning. This agrees with the findings of

Pallof and Pratt (2003) that using various forms of blended learning facilities such as computer, digital camera and other facilities enhance students' academic performance. In addition, the finding supports Usman (2013) that students tend to enjoy and appreciate more working with well-experienced teachers and instructors that can manipulate available facilities and material resources.

The finding in table 3 on the extent of agricultural programmes in meeting employment needs of student upon graduation shows that all the 18 item statements had values ranging from 2.53 to 3.75 which is greater than the cut –off point of 2.50 on a 4- point rating scale. This showed that all the items outlined are capable of meeting employment needs of the students upon graduation. This corroborates with the findings of Ogbunaya and Udoudo (2015) that when students are given the best, they develop skills needed to fit into the world of work and contribute towards the economic growth of the nation. In addition, the findings collaborates which the findings of Attah, Bessongs and Wonah (2017) assertion that impacting students with employable skills during instructional delivery will transform most students from white-collar job dependent to individuals with creative and innovative ideas that can help generate business ideas and identify business opportunities in the environment.

Table 4 analyzed the competencies of lecturers in the instructional delivery to enhance employability of the students upon graduation. The result showed high competence and very high competence in 12 out of the 14 mentioned competence items. This indicated that the teachers possessed good mastery of the theoretical and practical aspects of agricultural education. However, the work of Lawal, Onipede and Alfred (2019) assert that teachers of agricultural science in Secondary Schools in Gombe State, Nigeria need improvement in twenty (20) competency items in areas of crop husbandry.

Conclusion

Based on the findings of this study, it was concluded that the facilities and material resources available for teaching agricultural education in Enugu and Ebonyi State were adequate except for audio visual room, drawing room, food processing equipment and haulage vehicle for transportation that were not adequate and slightly adequate. The available facilities and material resources were highly utilized except for audio visual room which was not utilized and drawing room, food processing equipment and haulage vehicle for transportation that were slightly utilized. The study revealed that effective and competent use of the available instructional facilities is capable of meeting employment needs of the students upon graduation. Similarly, the study revealed that the lecturers are highly competent in teaching most of the skills and knowledge in agricultural education.

Recommendations

Based on the findings of this study it was recommended that:

1. Agricultural education lecturers should seek for avenues to improve themselves to enhance their ability in the utilization of audio visual material and other information and

communication technology facilities that can be used in instructional delivery.

2. The school authorities in conjunction with the regulating bodies should priorities and purchase all needed facilities, to make teaching and learning easy and interesting.
3. Frequent curriculum review should be encouraged. This will help to identify areas in agricultural education that need to be improved upon to enhance teaching, increase students' interest and strengthen their enrollment in the study of agricultural education.

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