



## Instructional Facilities and Pedagogical Approaches for Teaching Agricultural Entrepreneurship Subjects in Government Secondary Schools in Adamawa State, Nigeria.

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### ABSTRACT

The study was on analysis of instructional facilities and pedagogical approaches for teaching Agricultural Entrepreneurship Subjects in Government Secondary Schools in Adamawa State, Nigeria. Two specific objectives guided the study. In line with the specific objectives, two research questions and two research hypotheses were formulated. Descriptive survey research design was adopted for the study. The population of the study was 4,957 teachers and students and 500 were randomly sampled and used for the study. Structured questionnaire was used for the data collection. Four experts validated the instrument before the pilot study. Data collected from pilot study were analyzed using Cronbach Alpha. A reliability coefficient of 0.81 was obtained. The data for the main study were collected using face to face approach. The Statistical Package of Social Science (SPSS), 23 was employed to run mean scores and standard deviations for answering the research questions. The research hypotheses were tested using Analysis of Variance (ANOVA) at 0.05 level of significance. The study disclosed that secondary schools have no adequate instructional facilities for the implementation of Agricultural Entrepreneurship Subjects. In addition, the pedagogical approach used for implementation for the implementation is not appropriate. The study concluded that, inadequate facilities and pedagogical approach adopted by the teachers has hampered the students acquisition of skills for self-reliant as stated in the objectives of Agricultural Entrepreneurship subjects at secondary school students level in Adamawa State. The study recommended that Adamawa state government should provide needed instructional materials for effective implementation of agricultural trade subjects. In addition, teachers should adopt instructional approach that will facilitate learning and enable students to acquire skills for self-reliant upon graduation.

### ARTICLE INFO

Article History

Received: January, 2021

Received in revised form: March, 2021

Accepted: September, 2021

Published online: December, 2021

### KEYWORDS

Instructional, Facilities, Pedagogical Approaches, Agricultural, Entrepreneurship,

### INTRODUCTION

The problem of unemployment among secondary school leavers in Nigeria is alarming and threatens the peaceful existing of the inhabitants. The situation promoted the federal government to introduce trade subjects at secondary school level with the hope that the initiative will provide school leavers with basic skills for self-reliance. Empirical reports show that there is doubt on the achievement of the desired aims and objectives of the initiation (Adamu & Sani, 2017). The study conducted by Ajagbe, Kelechi, Kimuli and Cho (2015) affirmed

that 80% of Nigerian secondary school leavers annually find it difficult to secure gainful employment. The situation according to Adamu and Magnus (2019) has led some secondary school leavers to involve in various vices and atrocities.

The federal government, having realized the importance of education on national progress and development, adjusted her educational philosophy and channel it towards providing youths with basic skills for self-reliance introduced 34 trade subjects (Fisheries and Animal Husbandry inclusive) into the



curriculum of secondary school with emphasis of providing the students with practical skills for self-reliance. The specific objectives of introducing the trade subjects into the curriculum of secondary schools according to NERDC (2008) are to: (i) provide students with functional education for self-reliance; (ii) provide students with skills and knowledge for business creative and innovation novel for agribusiness opportunities; (iii) provide manpower need of small and medium business enterprises; (iv) inculcate the spirit of agribusiness venture perseverance to secondary school students; and (v) offer secondary school students adequate training for job creation employment opportunities.

Despite the initiative by the Federal Government since 2007/2008, the problem of unemployment still remains worrisome. Study conducted by Ajagbe, Kelechi, Kimuli and Cho (2015) reported that 80% of Nigerian school leavers annually find it difficult to secure gainful employment. Similarly, the report of National Bureau of Statistics (2017) affirmed that the rate of unemployment in Nigeria is increasing annually. The study conducted by National Bureau of Statistics (2018) further indicated that the rate of unemployment among the school graduates has increase from 10.4% to 23.1% from January 2016 to July 2018. This explained why Adamu and Mukthar (2018) reported that the persistent increase of unemployment among secondary school leavers is alarming. The reports therefore indicated that the laudable objectives of introducing trade subjects at secondary school level has not address the problem of unemployment in the country.

What could be the problem? To this effect, Adamu and Mukthar (2018) reported that most schools have no needed materials for implementing trade subjects. On the other hand, study conducted by Adamu and Magnus (2019) also disclosed that the most trade subject's teachers have no competencies for teaching the subjects. The authors stressed that the lecturer teaching methods adopted by secondary school teachers has affected the realization of objectives of providing students with self-reliant skills. Similarly, Ekpo (2010) reported that, if there is problem in realization of aims and objectives of any educational programme lay in the hand of teachers and availability of instructional materials. The assertions prompted the researchers to empirically

determine the extent to which the secondary schools (1) have needed instructional facilities for implementation curriculum of agricultural science trade subjects; and (2) pedagogical used for the implementation of agricultural science trade subjects' is appropriate for realization of its objectives in Adamawa State.

### **Research Questions**

In line with the specific objectives, the following research questions were raised

1. To what extent to which secondary schools have needed instructional facilities for implementation curriculum of agricultural science trade subjects' in Adamawa state?
2. To what extent the pedagogical used for the implementation of agricultural science trade subjects' is appropriate for realization of its objectives in Adamawa State?

### **Null Hypotheses**

The following research hypotheses were raised and to be tested at the significant level of 0.05.

1. There is no significant difference among the mean responses of teachers, animal husbandry and fishery students on the adequacy instructional facilities for implementation of agricultural science trade subjects' curriculum in Adamawa state.
2. There is no significant difference among the mean responses of teachers, animal husbandry and fishery students on the appropriateness of pedagogical approached used on the implementation of agricultural science trade subjects' in Adamawa State

### **METHODOLOGY**

Descriptive survey research design was used for the study. The choice of the design was based on the submission of Gay (2003) who opined that when study involve collection of data or interview in order to answer stated research questions, descriptive survey research should be adopted. Based on this argument, the descriptive survey design was considered appropriate for the study.

The population was 4,957. This comprised of 870 teachers, 2,927 Animal Husbandry students and 1,160 students of Fisheries in Government Secondary Schools in Adamawa state. The researchers randomly



sampled 500 respondents for the study. The sample comprised of 88 agricultural trade subjects' teachers, 295 Animal Husbandry students and 117 students of Fishery.

Due to obvious imbalance in the population of the study base on the 5 educational zones, the proportionate sampling technique of 0.1009 was used to determine the sample of the population of each educational zone. This technique enabled the educational zones to have equal representation of the participants. In each educational zone, random sampling technique was used to select those that participated in the study.

The instrument used to determine the availability of instructional facilities for implementation was checklist adopted from Agricultural science BMAS by NERDC (2008). The instrument used to generate data on suitability of the teaching approach is 4-point scale structured questionnaire. The questionnaire was adapted from Kabir, Adamu and Magnus (2019). This instrument was constructed Strongly Agree (SA), 4 points; Agree (A), 3 points; Disagree (D), 2 points and Strongly Disagree (SD), 1 point.

The instrument was validated by 4 experts who vetted the adequacy, appropriateness and clarity of the instrument. Their inputs were incorporated into the final copy of the instrument. Upon validation of the instrument, the instrument was pilot tested at Government Secondary Schools in Zing, Taraba state. The data collected from pilot study were analyzed to determine the reliability of the instrument using Cronbach Alpha. A reliability coefficient of 0.81 was obtained.

The researchers personally distributed the instrument using direct contact approach. The approach was considered appropriate because of higher percentage return of properly completed questionnaires. In each school, there had been interaction with the target respondents. Those that sought for more explanations were given necessary attention. Two days were given to the respondents, to complete the questionnaires. The exercise lasted for four weeks

The data were analyzed using descriptive statistics. Mean score and standard

deviation were used to answer the research questions. In the process of analyzing the data used to answer the research questions. The decision rule was based on interval scale of 3.50 to 4.00 (Strongly Agree and Highly Available); 2.50 to 3.49 (Agree and Moderately Available); 1.50 to 2.49 (Disagree and Partially Available); 1.00 to 1.49 (Strongly Disagree or Not Available).

In test of null hypothesis, independent sample ANOVA was used to test the null hypotheses using Statistical Packages of Social Sciences (SPSS, 23). In the analysis, when the p-value was less or equal to the alpha value ( $p \leq 0.05$ ), the hypothesis was rejected and when the p-value was greater than the alpha value ( $p > 0.05$ ), the hypothesis was retained.

## RESULTS

The results of research Questions are as presented in Table 1 and 2.

**Research Question One:** To what extent to which secondary schools have needed instructional facilities for implementation curriculum of agricultural science trade subjects in Adamawa state?

The result of items used to determine the available instructional facilities for implementation of curriculum of agricultural science subjects are as presented in Table 1. From the Table, item 44 (Local tools e.g., rake, hoe, brooms, wheelbarrow); 45 (Animal husbandry text books and 56 (fishery text books) were moderately available. Weighing scale, Livestock skeleton and Refrigerator in items 37, 42 and 54 were partially available. From the results, 32 items were not available. This is also applicable with the grand mean score of 1.37 obtained which suggested that most of the instructional facilities needed for implementation curriculum of agricultural science trade subjects in Adamawa state were not available. Consequently, this will hamper the implementation of the agricultural trade subjects' curriculum in the state.



**Table 1:** Descriptive statistics on the adequacy instructional facilities for implementation curriculum of agricultural science trade subjects' in Adamawa state

S/N	Items	Mean	Std. Dev	Remark
1.	Animal farm yard/space	1.17	0.87	NA
2.	Ruminant animals e.g. cow, goat, sheep	1.08	0.88	NA
3.	Non-ruminant animals e.g. rabbits, pigs, poultry bird	1.07	0.93	NA
4.	Post mortem kit	1.07	0.64	NA
5.	Surgical kit	1.14	0.78	NA
6.	Cattle hoof trimming	1.07	0.75	NA
7.	Castrators	1.10	0.85	NA
8.	Sterilizers	1.05	0.84	NA
9.	Salt lick	1.53	0.77	NA
10.	Identification tags	1.41	0.73	NA
11.	Tattooing set	1.00	0.63	NA
	Candler	1.02	0.87	NA
13.	Weighing scale	2.41	0.88	PA
14.	Chicks trays	1.42	0.93	NA
15.	Canopy brooder	1.04	0.87	NA
16.	Kerosene stove	1.21	0.88	NA
17.	Brooding thermometer	1.11	0.87	NA
18.	Livestock skeleton	1.55	0.98	PA
19.	Animal drinking water source e.g. dam, well, ponds, pipe water, reservoir	1.00	0.73	NA
20.	Animal husbandry Textbooks	2.51	0.66	MA
21.	Local tools e.g. rake, hoe, brooms, wheelbarrow	2.79	0.59	MA
22.	Hook and line	1.17	0.72	NA
23.	Scoop net	1.14	0.77	NA
24.	Cast nets	1.07	0.64	NA
25.	Float head	1.17	0.87	NA
26.	Gill net	1.27	0.79	NA
27.	Fishing boats	1.01	0.83	NA
28.	Spear	1.41	0.69	NA
29.	Basket	1.02	0.80	NA
30.	Refrigerator	1.82	0.74	PA
31.	Fish pond e.g. earthen pond, concrete pond or plastic base	1.01	0.69	N1
32.	Fishery Textbooks	2.98	0.58	MA
	<b>Grand mean</b>	<b>1.37</b>		<b>NA</b>

Source: Fieldwork, 2020

**Research Question Two:** To what extent the pedagogical used for the implementation of agricultural science trade subjects' is appropriate for realization of its objectives in Adamawa State?

The mean scores of the data used to determine research question four presented in Table ranged from 1.11 to 1.83. The mean scores of 5 of the items (58, 59, 62, 64 and 65) were under the scale of strongly disagree. This

suggested that the respondents strongly disagree with the statement. The respondents disagree with the statements in the 7 items of the questionnaire. This is also applicable with the grand mean score of 1.68 obtained which suggested that the respondents opined that pedagogical approached used for implementation of agricultural science trade subject is not appropriate for the realization of its objectives in Adamawa State.



Table 2: Descriptive statistics on the extent pedagogical used for the implementation of agricultural science trade subjects' is appropriate for realization of its objectives in Adamawa State

S/no	Statement	Mean	Std. dev.	Remark
33	Guided discovering is the method mostly used for teaching Agricultural trade subjects'	1.76	0.63	D
34	It is always easy to Teach practical aspect of Agricultural trade subjects	1.29	0.61	SD
35	Teaching of Agricultural trade subjects in our school is mostly practical	1.14	0.66	SD
36	Students are mostly expose to practical aspects of Agricultural trade subjects in our school	1.56	0.56	D
37	The school environment is conducive for teaching practical aspects of agricultural trade subjects'	1.56	0.63	D
38	The teaching method adopted in teaching agricultural trade subjects' enable students participating in teaching and learning exercise	1.43	0.61	SD
39	Availability of instructional materials in our school enhance effective teaching and learning of agricultural trade subjects.	1.67	0.66	D
40	The teaching method adopted stimulate students' interest to engage in agribusiness	1.11	0.56	SD
41	The method of delivery agricultural trade subject promotes the interest of the students in the subjects	1.27	0.67	SD
42	The teaching methods adopted for teaching agricultural trade subjects' increase student's self-confidence to start a business	1.76	0.66	D
43	The method of delivery agricultural trade subjects' give room for learning by doing	1.83	0.71	D
44	There is adequate time for students to interact directly with the problems and make their own contributions in agricultural trade subjects' class	1.74	0.75	D
<b>Grand Mean</b>		<b>1.68</b>		<b>D</b>

Source: Fieldwork, 2020

**Research Hypotheses**

The results of research hypotheses were as presented in Table 3 and 4

**Hypothesis One:** There is no significant difference among the mean responses of teachers, animal husbandry and fishery students on the adequacy instructional facilities for implementation of agricultural science trade subjects' curriculum in Adamawa state.

The Analysis of variance used to test null hypothesis three is as presented in Table 3.

From the Table, the F: (2, 460) was .083 and the  $p=.921$ . The result indicated that the probability value obtained was greater than the alpha value (.921>0.05). The result indicated that there was no significant difference among the mean responses of teachers, animal husbandry and fishery students on the adequacy instructional facilities for implementation of agricultural science trade subjects' curriculum in Adamawa state. The hypothesis was retained.

Table 3: Analysis of Variance used to test null hypothesis one

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.112	2	.056	.082	.921
Within Groups	311.780	460	.678		
Total	311.892	462			

Source: Fieldwork, 2020



**Hypothesis Two:** There is no significant difference among the mean responses of teachers, animal husbandry and fishery students on the appropriateness of pedagogical approached used on the implementation of agricultural science trade subjects in Adamawa State

Table 4 present the analysis of variance which was used to test null hypothesis four. From the Table, the F (2, 460) was .090

and the  $p=.914$ . The obtained p-value (.914) was found to be greater than the alpha value (0.05). The result indicated that no significant difference exists among the mean responses of respondents of teachers, animal husbandry and fishery students on the appropriateness of pedagogical approached used on the implementation of agricultural science trade subjects in Adamawa State. The hypothesis was upheld.

Table 4: Analysis of Variance used to test null hypothesis Two

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.125	2	.062	.090	.914
Within Groups	316.990	460	.689		
Total	317.114	462			

Source: Fieldwork, 2020

### DISCUSSION OF FINDINGS

The result of research question one and test of null hypothesis one suggested that the three groups of respondents agreed that most of the instructional facilities needed for implementation curriculum of agricultural science trade subjects in Adamawa state were not available. This finding is in line with the study conducted by Obeleagu-Nzelibe and Moruku (2010) who reported that the state of infrastructure in Nigerian schools' system is, to say the least, embarrassing. Infrastructures, such as, electricity, roads, water, conductive classroom, functional entrepreneurship centers and telecommunications network are in very bad shape. The study conducted by John (2014) who opined that instructional materials are lacking in Nigerian secondary schools, as a consequence, teachers take to teacher chalk and talk as they have no visual or audio-visual materials which the students can see, touch, and hear in the process of teaching and learning.

Similarly, the study conducted by Adetayo, Oke and Aderonmu (2015) remarked that the public sector of education has witnessed stagnation and decay. Stating further that most schools are a caricature of what schools should be in a modern state. The study of Atakpa (2016) also indicated that the deplorable or complete absence of infrastructural facilities has contributed to the poor development of entrepreneurship education in tertiary institutions in Nigeria). This limitation subsequently frustrates the integration

of entrepreneurship in academic programs in Nigeria. Umar, Oketoobo and Ibe (2017) reported that the teaching of agricultural science subjects in secondary schools has not been encouraging. The authors added that poor state of infrastructure dearth of resources for teaching science, large class sizes of agricultural science students. The study conducted by Markus and Muhammad (2019) reported that, one of the major issues that affect implementation of secondary school curriculum is the inadequate instructional facilities in schools. The authors maintained that, what is found in most secondary schools in Nigeria are dilapidated buildings, leaking roofs, lack of chairs and desks for students and teachers to use. This has negative effect on effective implementation of new secondary school curriculum

Results of research question two and test of corresponding null hypotheses suggested that the pedagogical used for the implementation of agricultural science trade subjects' is not appropriate for realization of its objectives in Adamawa State. This result agreed with that of Ifedili and Ofoegbu, (2011) who observed that the style of teaching of entrepreneurship education across the tertiary institutions in Nigeria has particularly been flawed because of too much emphasis on rudiments. Similarly, the finding of Gibb and Price (2014) confirmed that the pedagogy implemented in entrepreneurship education needs to be constructed such that the students have an active role. Study by Okoro (2005) revealed that there is poor utilization of



entrepreneurship education pedagogies in the teaching of entrepreneurship education.

Equally, Obose (2016) noted that teaching entrepreneurship education course is theory-based at the expense of practical training to enable students acquire competent entrepreneurial skills prior to graduation. Umar, Oketoo and Ibe (2017) argued that most agricultural science teachers are not well positioned to teach agricultural science effectively because most teaching of the subject is hinged by adoption of inappropriate teaching method. Adamu and Mohammed (2013) reported that the major problem affecting teaching and learning is deficiencies range from the use of inappropriate teaching methods for teaching agricultural sciences, through lack of commitment and dedication to inaccurate assessment of students learning outcome in agricultural science.

#### CONCLUSION

The evaluated the Agricultural Trade Subjects in Government Secondary Schools in Adamawa State, Nigeria. The need for the study arouses because of increasing number of unemployed among secondary school graduates who opt for animal husbandry and fishery agricultural trade subjects in Adamawa state. The outcome of the study revealed facilities and teaching approaches used for implementation of agricultural trade subjects will not yield to the achievements of the stated objectives as stipulated by National Policy on Education. Consequently, the problem of unemployment among secondary school students will remained unsolved if the situation remained the same.

#### RECOMMENDATIONS

Based on the outcome of the study, it was recommended that: -

1. The Adamawa state government in collaboration with NGOs should assist by providing needed facilities and equipment for smooth implementation of the curriculum of agricultural trade subjects in the state.
2. The Agricultural trade subjects' teachers should adopt instructional approach that will facilitate learning and enable students to acquire skills for self-reliant upon graduation.

#### REFERENCES

- Adamu, I. and Kabir, Y. (2019). *Influence of Technical and Vocational Education Training Centers on Youths' Self-Reliance in Bauchi State, Nigeria. Journal of Science, Technology and Education*. 7 (1) 264-275.
- Adamu, I. and Magnus, P. U. (2018). A Contextual Analysis of the New Senior Secondary Schools Curriculum on Realization of the Objectives of Mandatory entrepreneurial education in Nigeria. *Multidisciplinary Journal of Science Technology and Vocational Education*, 5 (1) 57-65
- Adamu, I. and Mohammed, I.A. (2013). Influence of Entrepreneurial Skills on Self-reliance as Perceived by Business Education Lecturers and Students in Colleges of Education in Kaduna State. *Journal of Vocational and Technical Education*, 8 (1) 104-103.
- Adamu, I. and Mukthar Y. A. (2018). Appraisal of Business Pedagogical Content Knowledge (BPACK) Competencies Needs for Implementing Salesmanship Curriculum in Secondary Schools In Nigeria. *Multidisciplinary Journal of Science Technology and Vocational Education*, 6 (1), 144- 152
- Adamu, I. And Sani I. (2017). Appraisal of the implementation of new senior secondary schools' curriculum in a time of mandatory entrepreneurial education in Bauchi state, Nigeria. *Ife Journal of Theory and Research in Education*, Ile-Ife 18 (1) 10-18.
- Adetayo, O., Oke, A., & Aderonmu, O. (2015). Assessment of entrepreneurship education and employment generation among university graduates in Nigeria. *European Journal of Business and Management*, 7(23), 136–144.
- Ajagbe, M. A., Kelechi, N. A., Kimuli, S. N. L., & Cho, N. M. (2015). Problems and visions of entrepreneurship education in post primary schools. *International Journal of Economics, Commerce and Management*, IV(7), 633–650.
- Atakpa, R. A. (2016). Entrepreneurship Education in Tertiary Institutions in Nigeria: Relevance, Challenges and Strategies. *Online Journal of Arts, Management and Social Sciences*



- (OJAMSS), 1(2), 84 – 89.
- Ekpo, P. (2010). An evaluation of graduate unemployment among university students in Nigeria. Daily independent, February 7, p 10
- Gibb, A., & Price, A. (2014). *A compendium of pedagogies for teaching entrepreneurship. international entrepreneurship educators programme. International Entrepreneurship Educators Programme*. Retrieved from <http://ieeponline.com/wp-content/uploads/2013/11/IEEP>
- Ifedili, C. J., & Ofoegbu, F. (2011). Managing entrepreneurship education in Nigerian universities. *European Journal of Educational Studies*, 3(1), 1946–6331.
- John A, Orodho P, Ndirangu W Miriam N & Ruth N. (2014). *Home based challenges to effective implementation of curriculum under free primary education system in nomadic Kenya* Journal of Education and Practice, 5(26) [www.iiste.org](http://www.iiste.org)
- Markus, Z. K. and Muhammad, A. Z. (2019). Community Involvement and Impact on Public Secondary Schools Curriculum Implementation in Nigeria. *International Journal of Current Aspects*, 3(V), 91-102.
- National Bureau of Statistics. (2017). Social statistics in Nigeria. Abuja: The NBS Publication.
- National Bureau of Statistics. (2018). Social statistics in Nigeria. Abuja: The NBS Publication.
- Nigerian Educational Research and Development Council (NERDC) (2008). *The new senior secondary school curriculum structure at a glance*. Abuja, Federal Ministry of Education.
- Obeleagu-Nzeribe, C. G. & Moruku, R. K. (2010). *Entrepreneurship and economic Development: The Imperative for Curriculum Innovation in Nigeria,* in Mainoma et.al [eds] Conference proceedings, Faculty of administration, Nasarawa State University, Keffi.
- Obose, A. (2016). Status of entrepreneurship education in South-South Nigerian tertiary institutions as perceived by lecturers. *International Journal of African and Asian Studies*, 23(23), 155–161.
- Umar, A. H., Oketoobo, E. A. and Ibe, V.S.O. (2017), Effective Evaluation of Agricultural Science Curriculum in Secondary Schools in Taraba State, *International Journal of Advanced Academic and Educational Research*, 13 (2), 123 – 137