



Awareness and Use of Requisite Materials for Implementation of Animal Husbandry as an Entrepreneurship Subject in Secondary Schools in Edo State, Nigeria

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ABSTRACT

Background: The introduction of entrepreneurship subjects in secondary schools in Nigeria is an initiative aimed at ensuring that graduates from secondary schools have relevant functional trades and entrepreneurial skills needed for poverty eradication, job creation, wealth creation, self-sustainability and food security. One of such entrepreneurship subjects is Animal Husbandry. Despite the introduction, there remains a gap between the introduction of the policy and knowledge and use of basic materials required for implementation of Animal Husbandry in particular as an entrepreneurship subject in secondary schools in Edo State, Nigeria.

Objective: This study evaluated the awareness level and use of required material for implementing Animal Husbandry as an entrepreneurship subject in Senior secondary Schools in Edo state, Nigeria.

Method: Structured questionnaire which sought to assess the awareness level and use of required materials for implementing Animal Husbandry as entrepreneurship subject in Senior secondary Schools in Edo state.

Result: The findings revealed that the teachers were aware of the required materials prescribed by NERDC for the implementation of Animal Husbandry curriculum in secondary schools.

Conclusion: It was concluded that the materials required for the implementation for animal husbandry curriculum in senior secondary school in Edo State were inadequate.

Unique Contribution: This study established that materials required for implementing animal husbandry was not used.

Key Recommendation: Based on the findings, it was recommended amongst others that adequate material such as animal houses, live animals, food processing etc. should be provided.

Keywords: Awareness level, Materials, Entrepreneurship subject, Animal Husbandry.



INTRODUCTION

In 2005, the Nigerian Government highlighted the need for a new invigorated functional curriculum for all school levels, thus, the National Council of Education (NCE), the highest policy making body in Nigerian educational sector, mandated the Nigerian Educational Research and Development Council (NERDC) to restructure and enrich the content of primary, junior and senior secondary school curricula. Therefore, the NERDC developed a functional, skill-oriented and values-enriched curriculum for Basic and Senior Secondary education. NERDC (2013) captures the philosophy of the new senior education curriculum (SSEC) thus: Every senior secondary school graduate should have been well prepared for higher education as well as having acquired relevant functional trade/entrepreneurship skills needed for poverty eradication, job creation, wealth generation; and in the process strengthen further the foundations for ethical, moral and civic values acquired at the secondary school. The SSSTC introduced 34 trade/Entrepreneurship subjects among which is Animal Husbandry. Animal Husbandry is an off-shoot of the traditional Agricultural Education subjects in senior secondary schools which purpose is to provide Animal Husbandry vocation for those who are terminating at senior secondary school Education, but will want to use the acquired skills and competencies for later life, (Ikeoji, 2018). Animal Husbandry is also the branch of agriculture centered on animals that are raised for meat, fibre, milk, eggs or other products (Aligwe, Nwankwo, & Nwafor, 2017).

The importance of Animal Husbandry as entrepreneurship/trade subject cannot be overemphasized. Animal Husbandry as an occupation is essential in dealing with the care of livestock namely; poultry, pigs, cattle, sheep, goat and walking animals. These also include feeding, breeding (natural and artificial), rangeland management, establishment of pastures and fodder crops, diagnosis and treatment of animal, diseases, inspection and grading of livestock and livestock products and by products processing. Animal Husbandry occupations also involve animal feeds formulation and compounding, conservation of forage, crops and design, construction and fabrication of farm infrastructures. (NERDC, 2019).

The study of animal husbandry is important because of the following reasons: to increase the production of milk, eggs, meat, fish, utilize the animal wastes properly, and effect of feed on milk yield and so on. For effective implementation of Animal Husbandry as a trade subject material resources as prescribed by NERDC must be available. For instance, if teachers and students are not provided with the prescribed farm facilities/instructional materials needed for effective teaching of the subject, the purpose of the introduction of the subjects will not be achieved. Instructional materials are anything that can give help or support when needed in order to achieve a goal or objective by an individual, group of individuals or an organization, while educational materials are those things that are needed to help or support in achieving educational goals and objectives. (Igberadja, 2016).

Schools endowed with more materials performed better than schools that are less endowed while students exposed to practical experience tend to perform better than those not exposed to practical. This practical experience however, helps student to become an entrepreneur (Adeogun, 2013). In implementing Animal Husbandry as trade/entrepreneurship subject teachers should be aware of the material resources available as prescribed by NERDC and effectively utilized the materials



for the teaching and learning of Animal Husbandry as trade and entrepreneurship subject in senior secondary schools (Uduigwome & Ikeoji 2020; Onyejelem, 2020). For effective implementation of Animal Husbandry as trade /entrepreneurship material resources such Audio visual room, drawing room, school farm, processing facilities, storage facilities Animal houses (poultry pen, goat pen pig house, rabbit pen, fish pond), meteorological tools and equipment, survey equipment, farm machinery, fishery equipment, etc should be adequately provided and effectively utilized (Uduigwome. 2019; Onyejelem & Aondover, 2024).

The West African Examination Council (WAEC) (2010) and the National Examination Council (NECO), recommend that schools must make farms where crops are grown with at least one species of non-ruminant such as goats, sheep and cattle and where feasible a fish farm. In Animal Husbandry, physical facilities include classrooms administrative blocks, libraries, laboratories, workshop, animal pens, nursery or green house amongst others. However, this appears far from what is obtainable in Senior Secondary Schools as regards to the teaching of Animal husbandry. It has been observed that most Senior Secondary Schools in Benin metropolis neither involved students of Animal husbandry on field work, field trips, school farm or laboratory research and experimentation to discover things for themselves. These controversies have necessitated this study which seeks to assess the level of awareness and use of required materials for implementing Animal Husbandry as an entrepreneurship subject in secondary schools.

Purpose of Study

The main purpose of this study is to assess the awareness level and resource required Materials for implementing Animal Husbandry as an entrepreneurship subject in secondary schools in Edo state.

Specific objectives of the study include to:

- a) Determine level of awareness of Animal Husbandry teachers on the materials prescribed by NERDC for the implementation of Animal husbandry as an entrepreneurship subject in senior secondary schools .
- b) The extent of availability of these materials for the implementation of Animal husbandry as an entrepreneurship subject in senior secondary schools.
- c) The extent of use of such materials for the teaching of Animal husbandry as an entrepreneurship subject in senior secondary schools.

Research Question

In pursuance of the purpose of the study, answers to the following questions were sought.

- 1 What is the level of awareness of Animal Husbandry teachers of materials prescribed by NERDC for the implementation of Animal husbandry as an entrepreneurship subject in senior secondary schools?
- 2 What is the extent of availability of these materials for the implementation of Animal husbandry as an entrepreneurship subject in senior secondary schools?
- 3 What is the extent of Use of such materials for the teaching of Animal husbandry as an entrepreneurship subject in senior secondary schools?



METHOD

The study was conducted in Edo state in the southern part of Nigeria, bounded to the North by Kogi, in the south by Delta, in the East by Anambra and to the West by Ondo State respectively. This study adopted ex-post facto research design using the survey method. The population of the study were all Agricultural Science teachers in Edo State. The sampling frame consisted of 194 Agricultural Science teachers which were selected from three Senatorial Districts which are Edo Central, Edo North and Edo South. Multi stage stratified random sampling procedure was adopted in selecting the schools. NERDC checklist questionnaire was developed and used to collect data. The instrument was subjected to face and content validity by experts. The data collected were analysed using mean and standard deviation to answer the research questions while t-test and Pearson Product Moment Correlation Coefficient were used to test the null hypotheses significant differences, a probability of 0.05 level of significance. The benchmark for acceptance was a mean rating of 2.50 for 4-point scale, while 1.5 was accepted for 2-point scale. Therefore, any item with a mean rating of 2.50 or above will be regarded as agreed or accepted or available or not available by the respondents while any item with a mean rating less than 2.50 were regarded as not agreed or not accepted.

RESULTS

Research Question 1

What is the level of awareness of Agricultural science teachers of materials prescribed by NERDC for the implementation of Animal husbandry as an entrepreneurship subject in senior secondary schools?



Table 1: Level of awareness of Agricultural science teachers of materials prescribed by NERDC for the implementation of Animal husbandry as trade/entrepreneurship subject in senior secondary schools in Edo State

Item	Mean	Std. Deviation	Remark
Poultry house	2.95	.85	High
Goat/Sheep pen	3.17	.86	High
Piggery	3.02	.82	High
Rabbitry	3.14	.82	High
Snailry	3.08	.85	High
Bee Hives	2.84	.82	High
Cattle farm	2.84	.83	High
Grasscutter pen	2.86	.86	High
Pigs	3.26	.68	High
Rabbits	3.46	.65	High
Cattle	3.59	.55	High
Goats	3.41	.76	High
Sheep	3.45	.64	High
Grasscutter	3.11	.78	High
Snails	3.27	.78	High
Bees	2.89	.95	High
Feeding troughs	2.94	.58	High
Drinking troughs	3.18	.58	High
Foot dips	3.15	.65	High
Heating source e.g. stoves	3.00	.58	High
Wheel barrows	2.98	.64	High
Castrators	2.96	.60	High
Debeakers	2.90	.73	High

Mean \geq 2.5 High



Data in Table 1 represents the mean responses of Agricultural science teachers on their level of awareness of the materials as prescribed by NERDC for implementing Animal husbandry as entrepreneurship subject in secondary schools in Edo State. The result revealed that the mean responses were ≥ 2.5 and all the respondents were aware that all the items were prescribed for implementing Animal husbandry in the school curriculum.

Research Question Two

What is the extent of availability of these materials for the implementation of Animal husbandry as entrepreneurship subject in senior secondary schools in Edo State?

Table 2: Prescribed Animal Husbandry materials and their availability

Material Resources				
A	Animal Houses			
1	Poultry house	1	20	A
2	Goat/Sheep pen	1	-	NA
3	Piggery	1	-	NA
4	Rabbitry	1	-	NA
5	Snailry	1	-	NA
6	Bee Hives	1	-	NA
7	Cattle farm	1	-	NA
8	Cutting grass pen	1	-	NA
B	Live animals			
9	Poultry	50	250	A
10	Pigs	10	-	NA
11	Rabbits	20	-	NA
12	Cattle	-	-	NA
13	Goats	10	-	NA
14	Sheep	10	-	NA
15	Cutting grass	10	-	NA
16	Snails	100	-	NA
17	Bees	200	-	NA
C	Animal House Equipment/tools			
18	Feeding troughs (Metal and Plastic)	10	4	A
19	Drinking troughs	10	4	A
20	Foot dips	10	-	NA
21	Heating source e.g. stoves	5	4	A
22	Wheel barrows	5	4	A
23	Castrators	2	-	NA
24	Debeakers	2	-	NA
25	Candlers	2	-	NA
26	Dehorner	4	-	NA
27	Ear notching tool	2	-	NA
28	Artificial inseminators	2	-	NA
29	Milkers	-	-	NA
30	Refrigerators	2	3	A
31	Nest bokes	-	-	NA
32	Syringes and needles	10	-	NA
33	Sanitizers	4	-	NA
34	Knapsack sprayer	2	5	A

Key: NA = Not Available; A = Available **Source:** Field Work (2024)



Data in Table 2 showed that most schools do not have materials i.e. there are no items like feeding troughs (4), drinking troughs (4), wheel barrows (4), refrigerators (3) and knapsack sprayers (5) are available in some schools (but are not adequate according to what is prescribed by NERDC) for learning and teaching of animal Husbandry.

Research question 3.

What is the extent of use of such material resources for the teaching of Animal husbandry as trade/entrepreneurship subject in senior secondary schools in Edo State?

Table 3: Extent of use of Available Materials in Senior Secondary Schools in Edo State.

S/N	Items	Mean	Std. Deviation	Remark
A	Animal houses			
1	Poultry house	2.79	1.11	Utilized
2	Goat/Sheep pen	-	-	-
3	Piggery	-	-	-
4	Rabbitry	-	-	-
5	Snailry	-	-	-
6	Bee Hives	-	-	-
7	Cattle farm	-	-	-
8	Cutting grass	-	-	-
B	Live animals			
9	Pigs	-	-	-
10	Rabbits	-	-	-
11	Cattle	-	-	-
12	Goats	-	-	-
13	Sheep	-	-	-
14	Cutting grass	-	-	-
15	Snails	-	-	-

Mean \geq 2.5 Utilized

Source: Field Work (2024)

Data in Table 3 presents the mean score responses of Agricultural science teachers on the extent of use of Materials for the teaching of Animal husbandry in senior secondary schools in Edo



State. The result shows that three (3) items (poultry house, wheel barrows and knapsack sprayer) out of the forty-one (41) items responded scored 2.7 and 2.5 respectively indicating that it is only these three items that are been used. However, the remaining thirty-eight (38) items or material score below 2.5 indicating that these materials are not being used which shows that these items are not available for the implementation of Animal Husbandry curriculum for entrepreneurship subject in senior secondary schools in Edo State.

DISCUSSION

The findings from research question 1 shows that Animal Husbandry teachers in senior secondary schools were aware of the materials for implementation of Animal husbandry for entrepreneurship in secondary schools. This finding is in line with those of Agbidi, &Ikeoji (2018). This implies that the Agricultural science teachers are part of a social system and they are expected to perform new behaviours different from what they are used to in terms of implementation of the Animal husbandry curriculum. This change in behaviour showed that the Agricultural science teachers must perceive the idea, behaviour and the Animal husbandry curriculum as an innovation that will bring about an expected change.

The findings in research question two showed that senior secondary schools in Edo State do not have available material resources for effective implementation of Animal husbandry for entrepreneurship in senior secondary schools. Most schools sampled showed availability of items like wheel barrow, poultry house, feeding troughs, drinking troughs and stoves but lack other major material resources required for the effective implementation of Animal husbandry curriculum. This finding is in agreement with the findings of Modebelo and Nwakpadolu (2013) who added that the learning of Agricultural science in Nigeria secondary schools (Animal husbandry) is more of theoretical, traditional classroom – based method, poor means of updating knowledge and inadequate farm facilities.

The findings of this study revealed that out of all the material resources prescribed by the NERDC (2009) for implementing animal husbandry curriculum in senior secondary schools, it is only few materials like wheel barrow, knapsack sprayer that are often used by teachers in senior secondary schools. It implies that teachers probably improvise or teach theoretically for the other materials that are not available in schools. The study also revealed that the other materials prescribed for implementing Animal husbandry curriculum are not available in schools. The finding of this study is in line with findings of Nwosu (2010) in a study on utilization of information and communication technology (ICT) as a tool and strategies for improving teacher professional development for effective service delivery, where it was found that teacher can to a very low extent, utilize to ICT resources for their professional development to enhance service delivery in schools. It also revealed that slow access to ICT equipment, low internet connectivity, lack of sufficient computers and high cost of laptop, lack of qualified personnel, interrupted power supply among others constitute a hindrance to ICT usage. The study is in line with the finding of Daudu (2012) in a study on assessment of availability and use of information resources and services in the institute of education library, Ahmadu Bello University, Zaria who found that human resources of the library are quite adequate, materials resources are not very of current except for newspaper. Equipment such as photocopying machine though essential is not available in the library.



CONCLUSION

Based on the findings of this study, it was concluded that the teachers were aware of the materials prescribed by NERDC for implementation of Animal husbandry curriculum in secondary schools. It also concluded that the materials required for the implementation of Animal husbandry curriculum in senior secondary schools in Edo State were inadequate and three (3) items (poultry house, wheel barrows and knapsack sprayer) out of the forty-one (41) items responded scored 2.7 and 2.5 respectively indicating that it is only these three items that are been used. However, the remaining thirty-eight (38) items or material score below 2.5 indicating that these materials are not being used which show that these items are not available when it was assessed based on NERDC standard of expected materials required for implementing Animal husbandry curriculum at the senior secondary school level.

RECOMMENDATIONS

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

- Edo State Government and other relevant bodies should provide adequate human resources such as qualified animal husbandry teachers, farm manger, laboratory attendants in all secondary schools in Edo State for effective implementation of Animal husbandry curriculum.
- The government and NERDC should ensure proper monitoring and evaluation of programmes to ensure full implementation of animal husbandry curriculum.
- The Federal Government of Nigeria through its supervisory federal ministry of education should establish a large scale integrated farm in every educational (or senatorial) zone in Edo State to serve as practical Agriculture training centres for secondary school students.
- School administrators in conjuncture with the association principals should train and retrain teachers on the use of materials for effective implementation of animal husbandry curriculum in senior secondary schools

Ethical clearance

All sources of information, including research studies, reports, and expert opinions, are properly cited in accordance with academic standards. The paper adheres to copyright laws and ethical guidelines for citing and referencing. The opinions presented are intended to contribute constructively to the discourse on Awareness and Use of Required Materials for Implementation of Animal Husbandry as an Entrepreneurship Subject in Secondary Schools in Edo State, Nigeria. Care has been taken to avoid any statements that could potentially harm or misrepresent individuals or groups involved.

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Conflict of interest

The author(s) disclose that there are no conflicts of interest related to this paper.

Authors' Contributions.

Comfort Uzuanjemen Uduigwome conceived the study, including the methodology, Eneh Emmanuel joined in sourcing for secondary data on the internet and library, Abubakar Mashi, wrote the initial manuscript. All the authors read and approved the final manuscript for publication in its current form.

Availability of data and materials.

The materials referenced in this paper on Awareness and Use of Required Materials for Implementation of Animal Husbandry as an Entrepreneurship Subject in Secondary Schools in Edo State, Nigeria are derived from publicly available sources, including academic journals, reports, and reputable online publications

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