



## Influence of School Farm on Learning of Agricultural Science in Senior Secondary Schools in Ikwuano Local Government Area, Abia State

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### ABSTRACT

This work examined the influence of school farm on the learning of Agricultural Science in senior secondary schools in Ikwuano Local Government Area of Abia State. The study utilized a descriptive survey research design with random sampling techniques. Six public senior secondary schools were randomly selected from the twelve schools in Ikwuano and then one hundred and twenty (120) agricultural science students were randomly selected from the six schools sampled. (20 agricultural science students from each school sampled). Two research questions and one null hypothesis guided the study. Instrument for data collection was a 10-item structured questions. The method for data analysis were descriptive statistics (mean, pool mean and standard deviation) for answering the two research questions. z-test was used to analyze the formulated null hypothesis. The findings of the study are that school farm has a positive influence on the learning of Agricultural science in senior secondary schools in Ikwuano Local Government Area of Abia State. Based on these findings, it was recommended among others that government and even the school management should always ensure the establishment of a functional school farm in schools and both the agricultural science teachers and the students on their own should always ensure proper management and utilization of the school farm. More so, prizes and awards should always be given to the best agricultural science students yearly in order to encourage and motivate others.

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### Introduction

Agriculture is the oldest industry known to mankind. It is the basic source of food and raw materials for many industries. In fact, it can be justifiably referred to as the world's primary industry (Ukpe, 2008). Agriculture plays an important role in the development of many developing nations, hence there is need to focus on sustainability and increased agricultural productivity (Akinsorotan, 2007, Obi, 2005 and Njoku, 2005). It remains the basic source of livelihood for more than half of the world's population. In some countries, more than four-fifths of the inhabitants support themselves by farming while in the more industrialized countries the proportion ranges much lower to less than 3 percent in both the United States of America and Great Britain (Johnson, 2013). More so, the branches of agriculture are as follows; Agronomy, Horticulture, Agricultural engineering, Animal science and Agricultural Economics (Jamaica, 2013).

In Nigeria, agriculture is a major sector of the economy, providing employment for about 70% of the population. The sector is being transformed by commercialization at the small, medium and large scale enterprise level (Ade, 2007). In 1990, 82 million hectares out of Nigerian's total land area of about 91 million hectares were found to be arable. 42 percent of the cultivable area was farmed, much of this land was farmed under the bush fallow system whereby lands are left idle for a period of time to allow natural regeneration of soil fertility. 18 million hectares were classified as permanent pasture, but had

the potential to support crops (Ade, 2007). It contributed about 32% to GDP in 2001 (Ade, 2007). The country's agricultural products fall into two main groups which includes food crops produced for home consumption and exports (Ade, 2007).

The youths which is the life-wire of every society are encouraged into farming through Young Farmers Club (YFC) sometimes have their farms or gardens. They receive information and in some cases assist them in analyzing innovations towards agricultural development. It is however unfortunate that inspite of the little efforts or contributions by the youths to household agriculture, empirical data are lacking on their participation maybe because of inadequate exposure to practical agriculture during their secondary school days or lack of practical skills. Thus, the scope of their involvement has not been statistically ascertained. The attendant knowledge gap has not permitted the formulation of articulate policies for improvement. Several youth programmes on agriculture have operated and failed due to lack of data, skills and information on what determines the youth's participation in rural agriculture for the design of appropriate intervention strategies (Agidi, 2004).

Based on the aforementioned reasons, Nigerian government made agricultural science as a subject compulsory in all secondary schools (both in junior and senior), so as to develop and improve effective learning of agricultural science (NPE, 2004). The 9-3-4 system of education was further introduced for this purpose (NPE, 2004). Moreso, this will

help the students to acquire knowledge and practical skills in agriculture and to prepare students for agricultural occupations (Obi, 2005).

The sole task of the educators we have in the entire world today is always to facilitate learning using various means and media. For success to be recorded therefore, he or she must be able to know and understand the meaning and the processes of learning. To Scolt (2012), Learning is the art of acquiring new or modifying and reinforcing existing knowledge, behaviours, skills, values or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals, plants and some machines. More so, he said that learning is a process rather than a collection of factual and procedural knowledge. It produces changes in the organism and the changes are relatively permanent. To the psychologist, learning is a process and a product. It is the acquisition of knowledge, ideas, skills, values and experiences which enables an individual to modify his world view or to realize his goal or perform a task that's benefit not only to him or her but to the entire society where he/she is living.

Dorf (2004), says that deliberate learning does not just happen as it is caused by motivation and this type of learning result only when directed along definite and planned channels.

Essentially, the general principles of learning is that learners with adequate readiness learns faster and better-a motivated learner learns faster than the unmotivated ones

School farm is also a component of the school activities which has link with the birth of a more productive agriculture. It is a selected plot of land in the school environment where students' carryout practical agriculture both in crop production and animal husbandry (Obi, 2005) this he said help the students to acquire knowledge and practical skills in agriculture and agricultural related opportunities.

Williams and McCarthy (1985) outlined some benefits of school farm to students to include:

- Generating circumstances for students to market agricultural products.
- Providing students with supervised occupational experience in agricultural productivity.
- Encouraging the use of records and reports similar to those used in agriculture.

Also, Kochnen (1994) stated that school principals rated the school farm as very important in giving students practical experience, it teaches students some agricultural skills, carryout demonstration plots and conduct agricultural experiments among others.

Kochnen (1994) stated that most school farms are faced with the lack of tools, equipments and other capital items. More so, lack of seeds, feeds, fertilizers and other operating suppliers, inadequate training for teachers to use the farm for instructional purposes.

In addition, lack of staff personnel to run the farm was seen as the most serious problem facing the school farm. Closely followed by lack of updated equipment and machinery and inadequate state of the art facilities. This came next as a problem rated as the highest serious problem by almost 60% of the principals (interviewed). Other problems include lack of agricultural inputs, lack of production of agricultural goods for internal consumption (Francisco, 2003).

Fuatai (2000) stated that problems associated with school farm are; lack of adequate teachers, lack of laboratory facilities, lack of equipment, small amount of land and attitudinal problem of students, the host community and the unserious attitude on the part of the administrators. Poor funding of the vocational agriculture in secondary schools, keeping abreast with development in the field of vocational

agriculture and communication of such development to students and the administration of vocational agriculture by non-specialists are problems facing the school farms (Ikeoji, 2007).

More so, inability of the curriculum to transmit employable skills to students, lack of required materials and resources for vocational agriculture delivery and lack of interest on the part of students pose as a problem to school farm (Agwubike, Ikeoji and Disi, 2007).

### **Statement of the Problem**

It is secret to no one that economies of the world are not in good shape (Ezeimo, 2015). All economic indices today point to a decline across the globe. Thus, countries such as America, United Kingdom among others who used to have a stable economy are today battling with unemployment, declining value of the currency and even mass retrenchment of a section of the workforce especially occupations relating to agriculture (Ezeimo, 2015). In Nigeria, the situation is even gloomier; unemployment is increasing at alarming rates. Hordes of unemployed graduates roam the streets in search of the non-existing white collar jobs. Nigeria universities roll out thousands of fresh graduates every year without any prospect of them getting employed and most of these graduates are not employable because they lack the practical knowledge and skills require of the workforce (Ezeimo, 2015).

More so, the problem of this lack of required practical skills among Nigerian youths even after graduation to a greater extent is probably due to unfavourable disposition or exposure of the young ones to agricultural/farm practicals especially during their secondary school days (Francisca, 2003). However, this calls for the need to determine the influence of school farm on the teaching and learning of agricultural science especially in senior secondary schools in Ikwuano Local Government Area of Abia State.

### **Purpose of the Study**

The main purpose of this research is to determine the influence of school farm on the learning of Agricultural Science in senior secondary school in Ikwuano Local Government Area of Abia State.

Specifically, the study sought to:

- i. Determine the attitude of students on the school farm.
- ii. determine the extent school farm influence the learning of agricultural science

### **Research Questions**

The following research questions guided the study.

- i. What is the level of students' attitude towards school farm?
- ii. To what extent does school farm influences the learning of Agricultural science?

### **Hypothesis**

There is no significant difference between the mean responses of male and female students on the influence of school farm on the learning of agricultural science.

### **Methodology**

#### **Research Design**

A descriptive survey research design was adopted for this study. Descriptive design is the one in which information is collected without changing the environment (i.e. nothing is manipulated).

#### **Area of Study**

The area of study was Ikwuano local Government Area of Abia State, Nigeria. Its headquarters is in Isiala Oboro. The northern border of Ikwuano is 3 miles (4.8km) south of Umuahia urban center. The southern border is 15 miles (24 km) from Ikot Ekpene, Akwa Ibom State of Nigeria (NIPOST, 2009).

Ikwuano is bordered by Olokoro and Ibeku communities in the north and northwest and by Bende in the east, Nkalu in the south east, Oboro-Okara in the south and Ohuhu-Nsulu in the south and south-west (NIPOST, 2009). The population of Ikwuano Local Government Area is about 137,993 at the 2006 census (NIPOST, 2009). The physical features directly influence the choice of crop cultivation and fishing as a means for sustainable livelihood.

Crops commonly grown are; cassava, maize, melon, green vegetable such as *Telferia*, *Talinum triangular* (water leaf), *Abel muscus esculentum* (okra) etc. The following livestock are reared; poultry, goats and sheep.

The population of this study consisted of all the senior secondary class two (SSII) students numbering 878 in Ikwuano Local Government Area (Planning, Research and Statistics (PRS) State Education Management Board (SEMB), 2014). The choice of senior secondary class two students was guided by the assumption that the students would be in the middle class of senior secondary classes. They would neither be adjusting to senior secondary syllabus as the SS I students would be doing nor would they be preparing for external examination as the SS III students would be doing. There are twelve (12) public secondary schools in this local government area which is under Umuahia educational area (SEMB, 2014).

The sample size for the study consisted of 120 senior secondary class two students drawn from six sampled secondary schools (20 agricultural science students from each school sampled). Random sampling technique was used to select six schools out of the twelve schools and was also used to select the 120 students from the six schools selected (20 students from each of the six schools). Ten-item researcher's made Questionnaire was used as instrument for data collection for this study. The instrument was prepared and tagged "Agricultural science students' response questionnaire (ASSRQ)". ASSRQ elicit information from agricultural science students on influence of school farm on learning. Both questions were based on the research questions derived.

#### Validation of the Instrument

The instruments were validated for face and content validity by three experts. One expert in Agricultural Science, one expert in Education Administration and one expert in Measurement and Evaluation. Modifications were made based on the corrections and suggestions which were reflected in the final draft used. The reliability of the instruments was established.

The instrument was trial tested twice in an interval of two weeks to 5 agricultural science teachers from the six schools selected. Data gathered from them were analyzed using Pearson Product Moment Correlation coefficient and a reliability coefficient of 0.78 was obtained. This coefficient made the instrument highly reliable to be used for this study.

The researcher personally administered the 12 questionnaires to 12 respondents in the six selected senior secondary schools in Ikwuano Local Government Area of Abia State. After the administration, the entire copies of the questionnaire were retrieved same day for data analysis.

In analyzing the data collected from the respondents, mean and pooled mean were used to answer the research questions. The Four Point Rating Scale has four distinct options i.e. Very High Extent, High Extent, Low Extent and Very Low Extent. The scores were as follows;

Very High Extent (VHE) = 4, High Extent (HE) = 3, Very Low Extent (VLE) = 2 and low Extent (LE) = 1.

More so t-test was used to test the hypotheses at 0.05 level of significance.

#### Decision Rule

Any mean of 2.50 and above signifies Agreed or High extent while mean value below it indicates Disagree or low extent.

#### Results

The results of the study are presented as shown in the tables below;

**Table 1. Mean ratings of students on the level of their attitudes towards school farms?**

S/N	Parameters	Mean Responses	SD	Decision
1	Students feel excited visiting the school farm	2.21	0.94	Low attitude
2	Students are reluctant in using the school farm	2.61	0.82	High attitude
3	Students dislike the use of school farm in teaching agricultural science	2.20	0.92	Low attitude
4	Students are always ready to use the school farm	2.54	0.99	High attitude
5	The use of school farm do not add any additional knowledge to me	1.85	1.17	Low attitude

Pooled Mean (X) 2.28 Low Attitude.

Table 3 shows that mean ratings of students on their attitude towards school farm in all the items were below the mean benchmark of 2.50 except items 12 and 14 respectively. The pooled mean of 2.28 which is also below the benchmark indicates a low level of students' attitudes towards school farms. In other words it implies that students have low level of attitudes towards school farm.

**Table 2. Analysis of Mean ratings of students on the extent school farm influence the learning of Agricultural Science**

S/N	Parameters	Mean Responses	SD	Decision
6	School farm makes learning to be comprehensive	3.42	0.51	High Extent
7	The use of School farm in learning saves time	3.25	0.45	High Extent
8	The use of School farm in teaching makes learning of agriculture easy	3.45	0.67	High Extent
9	School farm enhances the acquisition of agricultural skills	3.00	0.82	High Extent
10	The use of School farm enables me to achieve better grade in agricultural science exams	2.83	0.72	High Extent

Pooled Mean (X) 3.19 High Extent.

This shows that the mean ratings of respondents in all the items were above the mean benchmark of 2.50. This however implies high influence. The pooled mean of 3.19 which is equally above the mean benchmark also indicates that students agreed that school farm influence their learning of agricultural science to a high extent.

#### Hypotheses

$H_{01}$ : There is no significant difference between the mean ratings of male and female students on the influence of school farm on the learning of Agricultural Science.

#### Z-Test Analysis Of Mean Ratings Of Male And Female Students On The Influence Of School Farms On Learning Of Agricultural Science.

Gender	No	X	SD	Df	Std	t-cal	t-crt	Decision
Male	55	3.19	0.88	118	0.17	0.12	1.96	Accept $H_{01}$
Female	65	3.21	0.96					

It shows the t-calculated of 0.12 while t-critical value was 1.96. Since the z-calculated was less than the t-critical at 0.05 level of significant difference, the null hypothesis was accepted. Therefore, there is no significant difference between the mean ratings of male and female students on the influence of school farm on the learning of Agricultural Science.

Ho<sub>2</sub>: There is no significant difference between the mean ratings of male and female teachers on the influence of school farm on the teaching of Agricultural Science

### Discussion of Findings

Table 1 shows that mean ratings of students on their attitude towards school farm in all the items were below the mean benchmark of 2.50 except items 12 and 14 respectively. The pooled mean of 2.28 which is also below the benchmark indicates a low level of students' attitudes towards school farms. In other words it implies that students have low level of attitudes towards school farm.

In table 2, the researcher came out with a pooled mean of 3.19. This result is positive showing to a large extent that the school farm has a positive influence on the learning of agricultural science in senior secondary schools in Ikwano Local Government Area of Abia State. More so, the findings here indicated that the school farm has a way of helping the students to effectively and efficiently achieve their learning of agricultural science.

According to Williams and McCathy (1985), school farm is able to help provide students with supervised occupational experience in agriculture, allow them to apply principles of soil science and encourages the use of records and reports similar to those used in agricultural occupations.

### Conclusion

From the work, it is discernable that the school farm is capable of contributing positively to the learning of agricultural science in senior secondary schools in Ikwano Local Government Area of Abia State. Attitude of students being negative towards the use of school farm even when that of the teachers are positive maybe due to the fact that they never wanted to soil their clean school uniforms within the farm activities while in schools. It could also be because most of them never attended farm with their parents since they mostly reside in the urban settings. Students therefore need to develop a positive attitude towards the use of the school farm as this will help to allow for more effective learning of agricultural science. In addition, functional school farm is needed by schools from all stakeholders (federal, state, local government and even school management) as this will help to allow for more effective and efficient learning of agricultural science.

### Recommendations

Based on the findings made, the following recommendations were outlined;

- i. The government and even the school management should always ensure the establishment of a functional school farms in schools.
- ii. Agricultural science teachers and the students should always ensure proper management and utilization of the school farm.
- iii. The equipment used for effective utilization of the school farm should always be provided for the teachers and students to make use of the school farm.
- iv. Parents should be involved in encouraging their children to take up agriculture as their career in the near future.
- v. Prices and awards should always be given to the best agricultural science students yearly in order to encourage and motivate others.

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