

HOME FARM EXPERIENCE AND ACADEMIC PERFORMANCE OF SENIOR SECONDARY SCHOOL STUDENTS IN AGRICULTURAL SCIENCE IN EKITI STATE, NIGERIA

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Abstract

The study established the relationship between home farming experience and the academic performance of senior secondary school students in Ekiti State, Nigeria. The study adopted a correlational research design. The population of the study was 125,886 students offering agricultural science in the 213 public schools in the state. The sample size for the study was 399 using the Taro Yamen formula. Data were collected using two sets of questionnaire comprising the Home Farm Experience Questionnaire (HFEQ) and the Students' Academic Performance Questionnaire (SAPQ). The HFEQ contained 30 items while the SAPQ contained 10 items on 4-point rating scales. The instruments were validated by Agricultural education experts. The reliability was established through a pilot study on 30 students offering agricultural science in secondary schools in Ekiti State and the response was analyzed using Cronbach alpha coefficient. The reliability of the instruments yielded 0.78 for HFEQ and 0.75 for SAPQ respectively. Data generated were analyzed using Pearson Product Moment Correlation for the three (3) research questions. Results showed a very strong relationship between home farm experience in animal production, crop production and soil conservation and the academic performance of agricultural science students in senior secondary schools in Ekiti State. The study concluded that there is a strong positive relationship between home farm experience and the academic performance of agricultural science students in senior secondary school in Ekiti State. It was recommended that the state government through her agency should empower families with inputs to encourage them in their homestead farming since it has been revealed that it enhanced students' performance in agricultural science.

Keywords: Academic performance, Agricultural Science and Home farming experience, Animal production, Crop production

Introduction

The origin of agriculture dates back to the activities of the early men who

were wanderers in search of food. According to Akinsanmi, et al. (2013), the activities of these early men ranged from

picking natural fruits and capturing wild animals which coincidentally metamorphosed into the current organized farming operations fused into a formal school system as a course of study. Today, farming activities are done at various scales ranging from commercial scale through subsistence to family size home-stead farming in many homes (Famiwole, 2024).

Home farming is the growing of crops and rearing of animals within the farmer's residential home Mustapha and Jimoh (2023) defined home farming as the process of engaging in small-scale production of food with the goal of being self-sufficient, or at least limiting their reliance on outside sources. Although homesteading typically applies to farms, it is also possible to have an urban homestead farming involving the practice of sustainable living techniques, urban agriculture and a frugal lifestyle. Food and Agricultural Organisation (2022) noted that the most important characteristics of homestead farming are their location adjacent to homes, close association with family activities and a wide diversity of crop and livestock species to meet family needs. They have played a central role in household security for food, fuel, fibre, materials and even land ownership, as people changed from an exclusively hunting and gathering lifestyle and settled in small communities. Homestead farming worldwide typically combines the production of different crops, vegetables and livestock. In the homestead farming system, cropping and grazing areas surround a settlement. Bordering the settlement, there may be large-scale monocultures such as wheat or sugar cane farms; further away there may be forest or other common land used periodically for grazing, hunting and gathering firewood, materials and

seasonal forest foods. In the village, the small area surrounding a house provides good conditions for a garden. The village is usually close to a source of water and is usually better protected from floods and foraging animals than other farmland. There is good access by path or road, and it is the family's central living area. A home garden can be defined as a farming system that combines physical, social and economic functions on the area of land around the family home. The area is used as a place of work and for storage and processing of farm produce. It is also a place where people live and dispose of waste.

The process of farming at home utilizes family labour including the children and parents. Galhena, et al. (2013) and Babatunde (2024) opined that home farming does not rely on hired labour but rather focuses on the effective participation of every member of the family in working hard to contribute to the family's food security and income generation. Homestead farming has contributed immensely to the social, economic and even environmental and cultural well-being of local communities of the world. Homestead gardens have been identified as a strategy to enhance household food security and nutrition. It is an integral part of local food systems and the agricultural landscape of developing countries all over the world and a tested local strategy that is widely adopted in various areas by local communities with limited resources and institutional support. Homestead gardens are important parts of the local tradition and values in most cultures around the world. Indeed, many benefits are attached to homestead farming, including maintenance of health through physical fitness, an increase in local food security, provision of funds for the family and developing children's interest in the

study and development of agriculture in schools. The home farming system is among the major factors promoting the growth of agriculture as a discipline or course of study in schools through the interest developed by children from their farming experience with parents and siblings.

Homestead farming exposes children to the various production processes of animals and crops including soil conservation techniques using traditional methods. Eze (2013) noted that among the aspects of agriculture that children are exposed to during the homestead farming system are domestic animal production, horticulture and pomology. Olaitan and Mama (2001) in Famiwole (2018) affirmed that the home farming system enables family members to gain direct experience in the cultivation of crops and rearing of local farm animals within the residential environment. In rural and semi-urban areas, children are often observed independently keeping local fowls, goats, sheep and raising vegetables within any little space in the family compound. This enables them to gain direct experience in the activities involved in agriculture even before they begin attending school. Experience gained or gathered in homestead farming by students and youths before schooling or during the schooling period in the context of this study are grouped into crop production, animal production and soil conservation.

In crop production, children gain experience in the farm operations required to maintain a home garden as they carry out these tasks with their parents and siblings. These operations include land selection and preparation, tillage, planting with adequate plan spacing and seed depth, weeding using herbicide, fertilizer application or green manuring, watering or irrigation,

harvesting and post-harvest operations. In animal production, students engage in activities relating to the selection of healthy and good breeds of farm animals, housing, breeding, mating, vaccination, weaning, tautooning for identification, feeding, disease and pest control. Practical skills in animal farming operations acquired at home by the students' further increase their interest in agricultural science as a subject and consequently improve their academic performance in schools (Adebayo, 2024 & Obi, 2025). Students also gain farming experience in soil conservation measures such as application of common manures resulting from the kitchen and other household wastes, reducing soil acidity through spraying of wood ash on the farm, mulching, fertilizer application, planting of cover crops, use of manure (green yard, farm yard manure & compost), fallowing of land. These activities highly influence students' performance in practical, laboratory and class lessons (Ogunjobi, et al, 2020 & Cushman, et al., 2025).

Academic performance is the measurement of student achievement across various academic subjects. Teachers and education officials typically measure achievement using classroom performance, graduation rates and results from standardized tests. From a general point of view, academic performance is the extent to which a student, teacher or institution has achieved their short or long-term educational goals. Erum and Ahmed (2024) saw academic performance as the rate at which the objectives being pursued by the students from the curriculum are being achieved. The authors further stated that students' academic performance and graduation rates have been the area of interest for different educational levels. Academic

performance in the context of this study is the measurement of student's achievement in agriculture. This has a lot to do with past or previous experience of the students in farming. Ogbuluijah (2014) found in his study that students who participated in farming activities in their homes and attended field trips on farms had better academic performance in agricultural science. A study carried out by Anderson (2025) found that prior farming experience from homes greatly influenced students' academic performance in vocational agriculture subjects. This experience is gained through engagement in the family farming system. According to Cushman et al. (2025) and Olalekan et al. (2026) and there is a positive correlation between students' off-school experience in soil conservation and their performance in agricultural subjects. More so, Dawodu (2023) and Makinde and Ogunlade (2025) maintained that children from farming families performed better than those without any prior knowledge of crop production. Falode (2019) and Peter (2021) observed that there is a positive relationship between students' farm experience in soil management, maintaining that every aspect of farm operations done at home are also carried out in the schools.

Statement of the Problem

Agriculture remains a vital sector in Nigeria's economy, contributing significantly to food production, employment generation, rural development, and national economic growth. Consequently, Agricultural Science has been incorporated into the secondary school curriculum to equip students with practical skills, scientific knowledge, and positive attitudes towards agriculture. The subject is expected to provide learners with

opportunities to develop both theoretical understanding and practical competencies necessary for agricultural productivity and self-reliance.

Despite the importance attached to Agricultural Science in Nigerian secondary schools, the academic performance of students in the subject has continued to raise concerns among educators, parents, examination bodies, and policymakers. Reports from public examinations such as the West African Senior School Certificate Examination (WASSCE) and the National Examination Council (NECO) indicate fluctuations and, in some cases, unsatisfactory performance among students in Agricultural Science. This trend has generated concerns regarding the factors responsible for students' academic achievement in the subject.

Several studies have identified factors such as school facilities, teacher quality, instructional methods, parental socio-economic status, students' attitudes, and learning environment as determinants of academic performance. However, one factor that has received relatively limited attention is the influence of home farm experience on students' academic performance in Agricultural Science. Home farm experience refers to the practical agricultural activities and exposure that students acquire through participation in farming operations within their homes or family farms. Such experiences may include crop cultivation, animal rearing, farm management practices, processing of agricultural products, and other farm-related activities.

Practical experience is a fundamental component of agricultural education. Students who actively participate in farming activities at home may have opportunities to relate classroom concepts to real-life

agricultural practices, thereby enhancing their understanding, retention, and application of agricultural knowledge. Conversely, students without such exposure may depend solely on classroom instruction, which may limit their practical understanding of the subject. Despite this assumption, there is insufficient empirical evidence on the extent to which home farm experience contributes to students' academic performance in Agricultural Science, particularly among senior secondary school students in Ekiti State.

Furthermore, Ekiti State is predominantly agrarian, with many households engaging in farming activities either as a primary or supplementary source of livelihood. However, it remains unclear whether students from farming households perform better academically in Agricultural Science than their counterparts from non-farming households. It is also uncertain whether the nature, duration, and level of involvement in home farm activities significantly influence students' academic outcomes.

The observed absence of adequate empirical information on the relationship between home farm experience and students' academic performance has created a gap in educational research and policy formulation. Therefore, there is a need to investigate the extent to which home farm experience influences the academic performance of senior secondary school students in Agricultural Science in Ekiti State, Nigeria.

Purpose of the Study

The purpose of the study is to investigate home farm experience and academic performance of senior secondary school students in agricultural

science in Ekiti State Nigeria. Specifically, the study intends to establish the:

- i. relationship between home farming experience in animal production and academic performance of senior secondary school students in agricultural science.
- ii. relationship between home farming experience in crop production and academic performance of senior secondary school students in agricultural science.
- iii. relationship between home farming experience in soil conservation and academic performance of senior secondary school students in agricultural science.

Research Questions

The following research questions were posed for the study.

1. What is the relationship between home farming experience in animal production and the academic performance of senior secondary school students in agricultural science?
2. What is the relationship between home farming experience in crop production and the academic performance of senior secondary school students in agricultural science?
3. What is the relationship between home farming experience in soil conservation and the academic performance of senior secondary school students in agricultural science?

Methodology

A correlational research design was adopted because the study focused on establishing the relationship between 2 sets of variables. The area of the study is Ekiti State with a focus on students of agricultural science in senior secondary

schools. The population of the study was 125,886 students offering agricultural science in the 213 schools in the state. The sample size for the study was 399 respondents using the Taro Yamen formula. Two sets of questionnaires titled Home Farm Experience Questionnaire (HFEQ) and Students' Academic Performance Questionnaire (SAPQ) were the instruments used for data collection. The HFEQ contained 30 items while the SAPQ contained 10 items. The questionnaires consisted of a 4point likert type of rating scale of strongly agreed, agreed, disagreed and strongly disagreed with assigned scores of 4, 3, 2 and 1 respectively. The instruments were validated by 3 experts in the departments of Agricultural Education at Adeyemi Federal University of Education, Ondo and Adekunle Ajasin University,

Akungba Akoko. The reliability was established through a pilot study on 30 students and teachers of agricultural science in Ondo State and the response was analyzed using Cronbach alpha coefficient which yielded 0.78 for HFEQ and 0.75 for SAPQ. Data were collected by the researcher and 3 research assistants, 391 copies of questionnaire representing 98% of the instrument distributed were retrieved and analyzed using PPMC for the research question.

Results

Research Question 1: What is the relationship between home farming experience in animal production and the academic performance of senior secondary school students in agricultural science?

Table 1. PPMC result of the relationship between home farming experience in animal production and academic performance of senior secondary school students in agricultural science.

Item	$\bar{X}$	r	Relationship
Animal production	2.84	0.89	Very high and positive
Academic performance	3.04		

The result of the data presented in Table 1 shows a correlation of 0.89. This means that there is a very high and positive correlation between home farming experience in animal production and agricultural science students' academic performance. This implies that increase in home farm experience in animal production would lead to increase in the academic performance of

secondary school students in agricultural science.

Research Question 2: What is the relationship between home farming experience in crop production and the academic performance of senior secondary school students in agricultural science?

Table 2. PPMC result of the relationship between home farming experience in crop production and academic performance of senior secondary school students in agricultural science.

Item	$\bar{X}$	r	Relationship
Crop production	3.17	0.88	Very high and positive
Academic performance	3.04		

The result of the data presented in Table 2 shows a correlation of 0.88. This means that there is a very high and positive correlation between home farming experience in crop production and agricultural science students' academic performance. This implies that increase in home farm experience in crop production would lead to increase in the

academic performance of secondary school students in agricultural science

Research question 3: What is the relationship between home farming experience in soil conservation and the academic performance of senior secondary school students in agricultural science?

Table 3. PPMC result of the relationship between home farming experience in soil conservation and academic performance of senior secondary school students in agricultural science.

Item	$\bar{X}$	r	Relationship
Soil conservation	2.92	0.69	High and positive
Academic performance	3.04		

The result of the data presented in Table 3 shows a correlation of 0.69. This means that there is a high and positive correlation between home farming experience in soil conservation and agricultural science students' academic performance. This implies that increase in home farm experience in soil conservation would lead to increase in the academic performance of secondary school students in agricultural science.

Discussion of the Findings

The findings of the study in research question 1 show that there is a very strong positive relationship between home farm experience in animal production and the academic performance of students in agricultural science. This finding is in line with Adebayo (2024) and Obi (2025) who found that practical skills in animal farming operations acquired at home by the students further increase their interest in agricultural science as a subject and consequently improve their academic performance in schools.

The findings of the study in research question 2 show that there is a strong positive relationship between

home farm experience in crop production and the academic performance of students in agricultural science. This finding is in tandem with Dawodu (2023) and Makinde and Ogunlade (2025) who found that children from farming families performed better than those without any prior knowledge of crop production.

The findings of the study in research question 3 reveal that there is a positive relationship between home farm experience in soil conservation and the academic performance of students in agricultural science. This finding agrees with Olalekan, et al. (2026) and Cushman, et al. (2008) who noted that there is a positive relationship between students' offschool experience in soil conservation and their performance in agricultural subjects. More so, Falode 2019 and Peter (2021) observed in line with the findings of this study that there is a positive relationship between students' farm experience in soil management and maintenance and that every aspect of farm operation done at home is also carried out in the schools.

Conclusion

Based on the findings of this study, it could be concluded that there is a very strong positive relationship between home farm experience and the academic performance of agricultural science students in senior secondary schools in Ekiti State. This implies that generally, increase in home farm experience would lead to increase in the academic performance of secondary school students in agricultural science.

Recommendations

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

1. The government through her Ministry of Agriculture should empower families with inputs to encourage them in their homestead farming since it has been revealed that they enhance students' performance in school.
2. Parents should always carry their children along in their farming operations so they can develop more interest in agriculture.
3. Students should endeavour to take active part in home farming while relating the experience to school academic activities.

Conflict of Interest

The authors declare that they have no conflict of interest.

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