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TEACHING AND LEARNING PRACTICAL AGRICULTURE IN SENIOR SECONDARY SCHOOLS IN ESAN CENTRAL LOCAL GOVERNMENT AREA, EDO STATE, NIGERIA

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Abstract

This study assesses the teaching and learning practical agriculture in senior secondary schools in Esan Central Local Government Area, Edo State, Nigeria. The primary objective was to explore the socio-economic characteristics of the participants, determine students' perceptions towards practical agriculture, and identify challenges faced by both teachers and students. A mixed-method approach, utilizing descriptive statistics and SPSS, was used to analyze data from 60 students and 10 teachers. The results showed a gender imbalance among students (61% female, 39% male), while the gender distribution among teachers was more balanced (60% female, 40% male). Most students (79.6%) were aged 16-18, with 57.6% in SS3, a critical stage for agricultural skill development. The study highlighted challenges such as inadequate teaching tools (mean = 2.900) and insufficient farmland (mean = 2.600), both of which limited effective hands-on learning. While 93.2% of students had a positive perception of practical agriculture, 6.8% showed negative perceptions, likely due to resource constraints and outdated teaching methods. Furthermore, 79.7% of students expressed a positive attitude towards agriculture. Teachers also faced challenges, including stress from insufficient resources (mean = 2.200) and student disengagement. The study underscored the need for improved resources, teacher training, and curriculum reforms to enhance agricultural education in the region.

Keywords: *Practical Agriculture, Secondary Education, Teaching Challenges, Student Perception, Educational Resources*

INTRODUCTION

Agriculture remains one of the most important sectors for economic growth, food security, employment generation, and poverty reduction across the world. According to the Food and Agriculture Organization (FAO, 2024), agriculture plays a critical role in ensuring sustainable livelihoods and meeting global food needs. In Nigeria, the sector contributes significantly to national development through food production, raw material supply, income generation, and employment opportunities, particularly in rural communities (National Bureau of Statistics [NBS], 2024). As a result, agricultural education has become increasingly important for developing the knowledge, skills, and competencies needed to sustain agricultural productivity and support economic development.

Agricultural Science is a core subject in the Nigerian secondary school curriculum, designed to provide students with both theoretical knowledge and practical skills in crop production, livestock management, farm management, and agribusiness. Practical agriculture is especially important because it promotes experiential learning, allowing students to apply classroom knowledge to real-life farming situations. Through practical activities, students develop technical and entrepreneurial skills, enhance their problem-solving abilities, and cultivate positive attitudes towards agriculture as a profession (Jemirade, 2021). Effective practical instruction is therefore essential for preparing students for agricultural careers and encouraging youth participation in the sector.

Despite its importance, the teaching and learning of practical agriculture in many Nigerian secondary schools face several challenges. Studies have identified inadequate funding, poor infrastructure, lack of functional school farms, insufficient instructional materials, inadequate laboratory facilities, and shortages of qualified Agricultural Science teachers as major constraints to effective practical instruction (Kumar & Sharma, 2021; Abubakar, 2023; Eniafe & Owoseni, 2023; Ibrahim, 2024). In many schools, practical lessons are either inadequately conducted or replaced with theoretical teaching, limiting students' opportunities to acquire essential hands-on skills. Furthermore, negative perceptions of agriculture as labour-intensive, unattractive, and less rewarding often discourage students from actively participating in Agricultural Science (Onwunali et al., 2022; Achagwa et al., 2023). These challenges can negatively affect students' academic performance, practical competence, and preparedness for agricultural careers.

The continued existence of these problems has broader implications for youth employment, agricultural transformation, and national food security. Although several studies have examined Agricultural Science education in Nigeria, limited empirical evidence exists on the specific challenges affecting the teaching and learning of practical agriculture in senior secondary schools in Esan Central Local Government Area of Edo State. This study, therefore, investigated these challenges by examining the socio-economic characteristics of respondents, assessing students' perceptions of practical agriculture, identifying challenges faced by teachers in teaching practical agriculture, and determining the challenges encountered by students in learning practical agriculture.

Methodology

The study was carried out in Esan Central Local Government Area (LGA) of Edo State, Nigeria. It is part of the Edo Central Agricultural Zone, with its administrative headquarters in Irrua, located at latitude 6°44'45" N and longitude 6°13'42" E (mapcarta.com, 2022). The area is well known for its agricultural activities, particularly the production of food crops such as yams, cassava, and plantains, as well as fruits like mangoes, bananas, and oranges. It covers an area of about 253 km² with a population density of approximately 545.1 people per km².

A multi-stage sampling technique was used for the study. Esan Central Local Government Area was purposively selected because of its high student population. In the second stage, five wards—Ikekato, Otoruwo I, Ewu I, Opoji, and Ugbegun—were purposively chosen from the ten wards in the LGA. One school was selected from each ward, namely Ikekato Secondary School, Annunciation Catholic College, Irrua, Ehanlen Primary School, Opoji Secondary School, Okhore, and Ukpughele Primary School. In the final stage, 12 students and 2 teachers were selected from each school, giving a total sample of 60 students and 10 teachers, making 70 respondents altogether. The data were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Study Participants

The findings showed (Table 1) a female majority among both students (61%) and teachers (60%), reflecting a gender imbalance in the education sector. The teacher group was relatively young, with most aged between 30 and 35 years (mean = 33.8), suggesting adaptability and potential for ICT use in teaching (Adedokun, 2021). However, their limited experience may affect instructional effectiveness, highlighting the need for a balance between youthful energy and teaching experience. Among students, most were in Senior Secondary 3 (57.6%), followed by SS2 (27.1%) and SS1 (15.3%). In addition, over 90% of teachers hold tertiary qualifications. However, effective practical agriculture still depends heavily on the availability of adequate facilities and infrastructure. Religiously, 84.7% of students and 80% of teachers were Christians, while the remaining respondents were Muslims. This reflects the dominant cultural setting of the study area. The average household size was 2.6. Overall, the findings highlighted the need to improve infrastructure and consider socio-cultural and home background factors when planning agricultural education.

Table 1: Socio-Economic Characteristics of Participants (Students: N = 60; Teachers: N = 10)

Category	Sub-Category	Students (N = 60)	%	Mean	Teachers(N=10)	%	Mean
Gender	Male	23	39.0	-	4	40.0	
	Female	36	61.0	-	6	60.0	
Age (Students)	13-15	7	10.2		-	-	
	16-18	47	79.6	16.7	-	-	
	19-21	6	10.2		-	-	
Age (Teachers)	30-32	-	-	-	4	40.0	
	33-35	-	-	-	4	40.0	
	36-38	-	-	-	2	20.0	33.8
	SS1	9	15.3	-	-	-	
	SS2	16	27.1	-	-	-	
	SS3	34	57.6	-	-	-	
Educational Status(Teachers)	Tertiary	-	-	-	9	90.0	-
	Post-Tertiary	-	-	-	1	10.0	-
Religion	Christianity	50	84.7	2.6	8	80.0	-
	Islam	10	15.3	-	2	20.0	-
Household size	0-2	36	61.0		4	40.0	
	3-5	11	18.7	2.6	5	50.0	2.6
	6-8	9	15.3		-	-	
	9-11	3	5.1		1	10.0	

Source: Field survey 2023 *Multiple response

Perception of Students toward Practical Agriculture in Senior Secondary Schools.

A large majority of students (93.2%) had a positive perception of practical agriculture in senior secondary schools. This indicated strong students' interest and acceptance of hands-on agricultural learning, suggesting a solid foundation for agricultural education. The overwhelmingly positive perception presented an opportunity for policymakers and educators to strengthen agricultural education and encourage career interest in the sector. Enhancing resources such as school farms, laboratories, and modern teaching tools can further improve engagement and skill acquisition. Addressing negative perceptions is also important, as it will help ensure inclusiveness and better learning outcomes. Strengthening practical agriculture at the secondary level can inspire students toward agricultural careers and support national food security and workforce development goals.

Table 2: Perception of students towards practical agriculture in senior secondary schools.

Perception	Frequency	Percentage
Positive perception	55	93.2
Negative perception	4	6.8

Source: Field survey 2023

Likeness of Students towards Agriculture

Table 3 shows that most students (79.7%) had a positive attitude towards agriculture. This indicated a generally high level of interest in agricultural studies, although a minority of students remain disengaged. The findings suggested a favorable environment for agricultural education and practical learning. However, efforts such as improved teaching methods and curriculum support may be needed to increase the interest of less motivated students. This agrees with Ndiritu et al. (2020), who found that students with strong personal interest and prior exposure to agriculture are more likely to pursue agricultural careers.

Table 3: Likeness of Students towards Agriculture

Likeness	Frequency	Percentage
Yes	47	79.7
No	12	20.3

Source: Field survey 2023

Challenges Faced by Teachers in Teaching Practical Agriculture

The findings showed that the major challenges faced by teachers in teaching practical agriculture were poor teaching tools (Mean = 2.900) and insufficient farmland for practical activities (Mean = 2.600). These limitations reduced the effectiveness of hands-on learning and limited students' practical exposure. Student disinterest (Mean = 2.400) and lack of interest in agriculture (Mean = 2.300) also negatively affected teaching and learning outcomes. Although teaching agriculture was seen as stressful (Mean = 2.200), personal dislike for the subject (Mean = 2.000) was the least reported challenge. Overall, the results suggested that teachers' difficulties were mainly due to inadequate resources, limited infrastructure, and low student engagement rather than unwillingness to teach. Addressing these challenges will require the provision of modern teaching tools, adequate school

farmland, and more engaging teaching strategies. Teacher stress can also be reduced through regular training and stronger institutional support. These findings are consistent with Eze, Okeke, and Ugochukwu (2021), who reported that practical agricultural science is often poorly implemented due to shortages of teachers, facilities, and equipment. They further noted that practical lessons are frequently taught in theory because of inadequate resources and limited teacher competence, resulting in students graduating with little or no hands-on experience.

Table 4: Challenges faced by teachers in teaching practical agriculture

Challenges	Mean	Ranking
Poor teaching agriculture tools	2.900	1st.
Inadequate farm land for practices	2.600	2nd.
Students don't like participating in agriculture in school	2.400	3rd.
Lack of interest in practical agriculture	2.300	4th.
Teaching agriculture is a stressful job	2.200	5th.
I do not like teaching agriculture	2.000	6th.

Source: Field survey 2023

Challenges of Learning Practical Agriculture among Students in Senior Secondary Schools

The findings showed that the major challenges students face in learning practical agriculture were poor learning tools (Mean = 2.814), insufficient farmland (Mean = 2.610), and a shortage of agriculture teachers (Mean = 2.610). These issues limit students' opportunities for effective hands-on learning and reduce the quality of instruction. Moderate challenges included lack of interest in practical agriculture (Mean = 2.441), dislike of farming (Mean = 2.322), and the perception that agriculture is boring (Mean = 2.322), indicating generally low motivation among some students. Dislike of agriculture teachers (Mean = 2.153) was the least reported challenge. Overall, the difficulties are mainly linked to inadequate resources, limited infrastructure, teacher shortages, and low student interest. Addressing these challenges requires providing modern agricultural tools, adequate farmland for practical lessons, and recruiting and training qualified teachers. More engaging, student-centred teaching methods may also improve interest and participation. These findings align with Ajayi and Olatunji (2021), who noted that negative attitudes toward farming and low student engagement remain key challenges in agricultural education.

Table 5: Challenges of Learning Practical Agriculture among Students in Senior Secondary Schools

Challenges	MEAN	Rank
Poor learning agriculture tools	2.814	1st.
Inadequate farm land for practices	2.610	2nd.
Not enough agriculture teachers in my school	2.610	2nd.
Lack of interest in practical agriculture	2.441	3rd.
I do not like the farm	2.322	4th.
Learning about agriculture is boring	2.322	4th.
I do not like my Agric. Teacher	2.153	5th.

Source: Field survey 2023

CONCLUSION AND RECOMMENDATIONS

The study concluded that students in senior secondary schools in Esan Central Local Government Area generally possessed positive perceptions and attitudes toward practical agriculture, indicating a favourable environment for agricultural education and skill acquisition. However, the effective teaching and learning of practical agriculture were constrained by inadequate teaching and learning tools, insufficient farmland for practical activities, a shortage of qualified agricultural teachers, and varying levels of student engagement. These challenges limited the achievement of desired educational outcomes despite the high level of student interest in the subject. Therefore, improving resources, infrastructure, and instructional support is essential for enhancing the quality of practical agricultural education and promoting greater youth participation in agriculture.

The study recommended that schools should provide adequate agricultural tools, instructional materials, and well-equipped school farms to support effective practical learning.

The Agricultural Science curriculum should be reviewed regularly to incorporate emerging technologies, sustainable farming practices, and experiential learning opportunities that will improve student interest and relevance.

There is also a need to recruit more qualified Agricultural Science teachers to address existing manpower shortages and improve instructional effectiveness. Finally, government and other relevant stakeholders should provide increased funding, infrastructure, and institutional support for agricultural education, while strengthening partnerships between schools, agricultural institutions, and agribusiness organizations to expose students to modern agricultural practices and career opportunities within the sector.

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