

Mechanisms for Enhancing Students' Participation in Farm Practicals in Secondary Schools in Imo State

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Abstract

The purpose of the study is to identify mechanisms for enhancing students participation in farm practical in Secondary Schools in Imo State. The study adopted descriptive survey research design. The population of the study was 108 respondents made up of 18 teachers and 90 SS2 students of Agriculture randomly selected from the three zones of the state. Three specific purposes, three research questions and one hypothesis guided the study. The instrument for data collection was a 30-item structured questionnaire titled "Students Farm Practicals Enhancement Questionnaire" (SFPEQ) with an established reliability co-efficient (r) of 0.80. Data was analyzed using mean and standard deviation to answer the research questions while t-test was used to test the hypothesis at 0.05 level of significance. Results indicated that school farm improves students' participation in farm practical. Mechanisms identified for improving students participation in farm practical include encouraging students direct involvement in sales of farm proceeds, among others. Problems militating against effective use of school farm for practical in secondary schools were identified as lack of instructional materials for teachers, poor curriculum structure, ignorance of the roles of school farms in schools, lack of available land for practical, paucity of fund among others. The study recommended that the importance of school farms should be well emphasized in secondary school curriculum by curriculum planners, proper teaching of the subject by teachers to develop students' interest and the school environment should be made agriculture friendly by providing adequate classrooms for teaching and land laboratories for practical.

Key words: Mechanisms, Farm Practical, Participation, Enhancing and Secondary Schools

Introduction

Every nation hoping for brighter future needs to emphasize on education because it is a sure way that enhances development. It is an instrument par-excellence and the means of developing human intellect, technical skills, character and effective citizenship for self-reliance and also an instrument for achieving socio-economic and technological growth and development of any nation (Federal Republic of Nigeria (FRN), (2014).

Agricultural Science is one of the subjects taught in senior secondary schools as vocational electives (National Policy on Education (FRN 2014). According to Omeje (2017), Agriculture is the act and science of growing crops and rearing of animals for man's use. It deals with the production of crops and rearing of farm animals by man for the purpose of providing food, raw materials and shelter. Agriculture has been recognized as an important subject in Nigeria secondary school today, because of its involvement in vocational training that equips the learner with the knowledge and skills in increasing productivity such as the training of both the head and the hands of the learner. In view of this Olaitan and Omomia (2013) outlined that philosophy regarding agriculture in schools should include honest labour, for example planting seed and rearing livestock is a worthy activity. The principle of learning by doing is encouraged in the programme for students to learn the skills of food production and other agricultural products. A holistic implementation of agriculture curriculum in secondary school is effected to embrace classroom instruction and practical experiences (Adeyeye & Dittoh, 2015). The objectives of teaching agricultural science includes to: prepares students for further studies in agriculture, enable students to acquire basic knowledge and practical skills in agriculture, stimulates and sustain student's interest in agriculture and prepare them on basic scientific knowledge and attitudes required for entry into agricultural occupation (FRN, 2014). These laudable objectives are achievable with the effort of the teachers who are the implementer of the curriculum.

Farm practicals embody the scheduled learning activities using the school farm through hands on experiences. William (2014) opined that in secondary schools, students are expected to carry on short and long-term practical activities such as cultivation of crops, vegetables and fruits, raising of livestock for the school's consumption and for local markets. Secondary schools refer to the next level of education after the primary school which is divided into the first three years of junior secondary and another three years of senior secondary. In secondary schools, many

subjects are offered by students and Agricultural Science is one of the subjects taught as vocational electives. Agriculture in schools has to be handled in such a way that from a very young age students begin to take interest in farming to popularize farming as an honourable occupation, this will help to reduce apathy towards the practice of farming (Ighakpe, 2023).

Osinem (2014) explains that learners learn better when they hear, see and feel or touch, this involves participation. Participation in this context refers to using the principle of “learning by doing” which is best achieved by engaging one’s self in practical activities in the school farm. Farm practical activities can be divided into the crop and the livestock practical activities. The crop practical activities include; Land preparation, Soil management activities, Nursery preparation and Crop propagation and maintenance. Others include harvesting, processing and storage, marketing of crops produce at farm gate, keeping of farm records while the livestock practical involve selection of breeding stock, construction of pens, rearing and health care; Others include: processing and /or preparation of livestock product as well as their waste.

Farming as a vocation is done in the schools through the school farm practical activities. The school farm practical include activities such as field trip. Field trip is a farm practical activity that exposes students beyond the classroom and their school environment. It involves planned visit to agricultural institutions and establishment for direct experiences through on-the-spot observation, touching, handling, manipulation, questioning and recording of experiences (Ekong, 2013).

Formal preparation for taking farming as a vocation as observed by Ighakpe, (2023) and Olaitan and Omomia (2013) is initially done in the school through school farm practical activities. School farm is a farm owned by the school and managed by the students of agriculture under the supervision of the agricultural teacher. The school farm as viewed by Osinem (2014) is a land laboratory for teaching agricultural skills to students. School farms are very important when teaching a variety of topics in agriculture such as crop rotation, mixed farming and intercropping etc. Ekong (2013) describes school farm as an area of land owned by the school, divided into block plots or units under one management for growing crops, raising of livestock’s for utilization in teaching or for other purposes.

In the opinion of Olaitan (2012) the school farm is of vital importance to school or colleges with agricultural programmes and is established to meet the following objectives: To earn money, to put theory into practice; to improve background knowledge of agriculture; to solve

individual farming problems and to serve for the conduct of relevant agricultural experiment. A school farm is a magical place where students come to learn about growing food to develop practical skills with real-life farmers. The students work beside farmers, learning to grow and harvest food. School farms are not just space for growing food items, they are complete learning zones, which largely succeed in taking learning to a new height. There is a whole range of benefits to students who participate in school farms. They include increased mental health, confidence building, feeling more connected to school and community. There are also nutrition and physical health benefits as most programs have shown to be especially beneficial to students that do not excel in competitive settings. (Ighakpe, 2023).

For a successful school farm, Ekong (2013) suggested that implements and practical equipment are to be purchased and distributed to students and whenever the school records bumper harvest the pupils/students can be fed from the produce and proceeds from the ones sold can be used to develop the school. The knowledge obtain from practical sessions helps to re-enforce what is taught in the classrooms, teaches students and pupils alike on healthy eating, to know how food arrives our homes from the farms, to equip students with firsthand knowledge of how to run agribusinesses, and especially in cultivating an entrepreneurial spirit in students.

Also, Ighakpe, (2023) stated that from 1960s, to the early 1990's, school farming was a major component of the schools' curriculum, and there was no exemptions as to who participated in practical agriculture and who did not. All pupils and students troop to the farm at the designated time. The idea behind this was to make agriculture an integral part of the school culture, so pupils and students are well positioned to appreciate farming and make it a life style, even when they do not intend to specialize in it. The author further enumerated the characteristics of the school farm that helps to actualize its objectives to include: classroom instruction, supervised study, possibilities for crop rotations reality, individual practice as well as planning development and management in a unique situation. However, Olaitan (2012) stated that the basic principles of school farm includes that;

1. Agricultural production activities in the school farm should be intensified for students who want them, need them and can profit by then after graduation from school.
2. The teacher must be well trained in the knowledge and skills of the school farm for training students.

3. Specific learning experience in the school farm should enable students to form right habits and thinking necessary for success in any relevant agricultural occupation.
4. School farm should be used to train students directly and specifically in the thinking habits and manipulative skills required in farm production outside the school.
5. School farm develop in the student's minimum awareness and entry level required for entering into any profitable agricultural occupation.
6. The school farm and its management practice should be a replica of farm production management practices outside the school.
7. School farm environment should be where operations are carried with the same tools, equipment's and procedures as in typical farming operations in the field.
8. School farm should make students capitalized on their interest, aptitudes and intrinsic intelligence with reference to their chosen agricultural operations and
9. The content of school farm management practices should emphasize knowledge, skills and attitude for occupation outside the school.

Furthermore, Ighakpe, (2023) suggested that it is important that schools should be provided with necessary logistics for the successful implementation of the whole agricultural science curriculum, while the school farm serves as field or laboratories for the training of students with basic focus being on skills development and self-reliance. Agric-school club can also be encouraged, where pupils and students will be taught about farming practice and encouraged to own farms and participate in agricultural competitions to enable them perform better. These steps could help catch them young, and incubate the love of farming in young ones.

Also, Ekong (2013) observed that qualified and competent Agricultural Science teachers should be employed to help make students appreciate the benefits of the study of agriculture in practicality. Apart from being qualified, these Agricultural Science teachers should be aware of interesting areas of agriculture that will attract and sustain young minds. These teachers should also undergo further training, as this will enhance their teaching skills. The knowledge thus acquired by pupils/students can stick with them for many years to come. Agricultural programmes in the secondary school is taught as practical agriculture and is an important subject of the curriculum. The goal is to provide the students with adequate orientation for work at school and to prepare them for future activities in agriculture (FRN, 2014). Therefore, Farm

practical in the secondary school classes would enable students to acquire basic agricultural skills to be able to practicalize farming on graduation, be useful to themselves and to the communities they belong. This would occupationally motivate them and prepare them for success in agricultural world of work. Success in agriculture demands the spirit of co-operation, exchange of ideas, handwork and disciplined behavior as ingredients (Ekong, 2013). Also, in the view of Etuk, (2014) farm practical in the secondary school would broaden the educational base of the students and enable them develop positive attitude towards agricultural production. Despite the lofty goal and prospective benefits of practical agricultural training, the students seem to exhibit negative attitude towards participation in farm practical in secondary schools. Odogwu (2015) in enumerating students negative attitude noted that the problems of how to increase students participation in farm practical has attracted attention of government agencies and individuals. Mechanisms in this contest refers to the necessary measures needed to enhance students participation in farm practical.

According to Ronald (2017), the study of agriculture in Nigerian schools are faced with a myriads of challenges such as poor curriculum structure, lack of instructional materials for teachers, lack of professional teachers and access to school farms. In some schools as stated by Ekong (2013) students have no knowledge of agriculture and so their involvement in practical experience in the school farm is perceived as a drudge and untidy business. Also, most secondary schools have very little space for practical while others do not have space at all, as a result, students are compelled to study agriculture without the practical aspect. More also, some principals and teachers claim the largest part of the school farm where land is available, leaving a small unfertile portion for students farm practical.

It is indeed a sorry situation when school children in Nigeria, a country widely acclaimed for its rich agricultural heritage do not have the privilege of experiencing practical agriculture during their schooling. To curb thus problem, the practical aspect of agriculture in school curriculum should be given equal attention as the theory. The Guardian of Sunday, May 6, 2018, published an excellent report entitled "How poor policy implementation, loss of land frustrate agric in schools" this report discussed the issues relating to the non-existence of school farms in many public schools around the country. Several factors were highlighted to have contributed to the non-availability of school farm to support practical agriculture classes in school; these include the use of land for other non-agriculture related projects, lack of adequate

infrastructure in schools hence, no space set aside for cultivation, lack of fund to sustain the cost of farm inputs; bush burning, deforestation as a result of human activities. Thereby destroying the fertility of the soil. While there is existing research on school farm, much of it focused on the importance with limited attention given to the practical aspect of skill acquisition through enhancing students participation in farm practicals especially in Imo State. Based on this background, the question which arose from the study was, in what ways can students' participation in farm practical in secondary schools be improved?

Purpose of the Study

The main purpose of this study is to determine the mechanisms for improving students' participation in farm practical. Specifically, the study sought to:

1. identify the roles of school farms in secondary schools in Imo State
find out how the school farm can be used to motivate students' participation in farm practical in secondary schools in Imo State.
2. examine the problems militating against the use of school farms in encouraging students participation in farm practical in secondary schools in Imo State.

Research Questions

1. What are the roles of school farm in secondary school in Imo State?
2. How can the school farm be used to motivate students' participation in farm practical in secondary schools?
3. What are the problems militating against the use of school farm in enhancing students participation in farm practical in secondary schools?

Hypothesis

H₀: There is no significant difference in the mean ratings of Agricultural Science teachers and

Students on the roles of school farm in enhancing students' participation in farm practical in secondary schools in Imo State.

Methodology

The study adopted a descriptive survey research design. Descriptive survey research design is a method of collecting information by administering questionnaires to a sample of individuals about peoples' attitudes, opinions, habits or any of the variety of social issues (Aja & Eze, 2016). The study was carried out in Imo State. The population of the study was 108, comprising 18 teachers and 90 SS 2 students of agriculture. Simple random sampling techniques was employed in selecting 3 secondary schools from each of the three zones of the state, from each school, 2 agricultural science teachers and 10 senior secondary II (SS. 2) students were randomly selected bringing the number to 6 teachers and 30- students from each zone. From the three zones of the state, 18 teachers and 90 students of agriculture were selected making the total population (respondents) to be 108.

The instrument for data collection was a questionnaire titled "students farm practical enhancement" (SFPE) questionnaire and it was used for obtaining relevant data for answering the research questions. The instrument was divided into sections. Section "A" elicited information on roles of the school farm in enhancing students' participation in farm practical. Section "B" elicited information on how the school farm can be used in motivating students interest and participation in farm practical in secondary school agriculture while section 'C' sought information on the problems militating against the use of school farm in enhancing students participation in farm practical.

The instrument was developed using a four point scale of strongly agreed (SA,4) Agreed (A, 3) Disagreed (D,2) and strongly Disagreed (SD, 1). The instrument was validated by three experts, two from the Department of Agricultural and Vocational Education and one from Measurement and Evaluation unit of the Department of Science Education all from Michael Okpara University of Agriculture, Umudike. The inputs made were used for making necessary adjustments in the instrument. A test retest procedure was employed to establish the reliability of the instrument. Pearson Product Moment Correlation Co-efficient was used for the analysis and a co-relation co-efficient of 0.80 was obtained and considered reliable for the study. The instrument was administered by the researcher with the help of three research assistants, one from each zone of the state who were briefed by the researchers for this purpose. All the 108 copies of the questionnaire were retrieved with a 100% return rate. Data collected from the respondents were analyzed using mean and standard deviation to answer the researcher

questions while t-test statistics was used to test the hypothesis at 0.05 level of significance. The decision rule of was used to make a decision on the mean of each item. Therefore, any skill item mean response of 2.50 and above was regarded as agreed while any skill item with a mean response of less than 2.50 was regarded as not agreed. For the null hypothesis tested, when the t-calculated is less than t-critical, the hypothesis was not rejected but if the t-cal is greater than the t-critical (table value) the hypothesis was rejected.

RESULTS

The results of the study are presented below:

Research Question 1: What are the roles of school farm in secondary schools in Imo State

The data that answered research question one are presented in table 1.

Table 1: Mean and t-test Results of the Responses of Students and Teachers on the Roles of school Farms in Secondary Schools in Imo State

S/n	Ability to:	Students teachers students \bar{x}	SD	T-cal	T-tab	N=108 Remarks
1.	enhance understanding and retention of facts	3.00	1.00	0.62	1.97	Agreed, NS
2.	offer opportunity for the demonstration of class work	3.10	0.98	1.06	1.97	Agreed, NS
3.	offer students opportunity to learn new techniques in animal production	3.25	1.08	1.15	1.97	Agreed, NS
4.	offer opportunity to learn new techniques in crop production	3.17	0.89	0.56	1.97	Agreed, NS
5.	offer farming experience to students especially those without farming background	3.44	0.68	0.96	1.97	Agreed, NS
6.	Develop students interest in and love for agriculture	3.01	1.60	0.83	1.97	Agreed, NS
7.	act as instrument for trial of new farming techniques	3.16	1.02	0.67	1.97	Agreed, NS
8.	help develop the spirit of team work	3.04	1.03	0.70	1.97	Agreed, NS
9.	offer students opportunity to be self employed	3.16	1.02	0.97	1.97	Agreed, NS

Key: \bar{x} = Mean, SD = Standard deviation, NS=Not significant.

Data in Table 1 revealed that the respondents agreed with item 1 to 9 as the roles played by school farm in improving students farm practical skills. The nine (9) items have their standard deviation value ranging from 0.56 to 1.56 which shows that respondents were not far from each other in their responses and this implies that school farm improves students participation in farm practical.

Hypothesis 1

There is no significant difference in the mean ratings of students and teachers on the roles played by school farms in secondary in Imo State. Data for testing hypothesis 1 are presented in Table 1 above; t-test of differences in man ratings of students and teachers on the roles played by school farms in secondary schools in Imo State. The testing of hypothesis and a close data analysis showed that the testing of hypothesis and a close data analysis showed that the calculated t-value ranged from 0.56 to 1.15 which is less than critical table value of 1.97 at 108 degree of freedom. Since the calculated t-value is less than the critical table value, the null hypothesis stated was upheld. Therefore, there was no significant difference in the mean responses of students and teachers on roles played by the school farm in enhancing students' participation in farm practical in Imo State.

Research Question 2: How can the school farm be used to motivate students' participation in farm practical in secondary schools in Imo State?

The data that answered research question 2 are presented in Table 2.

Table 2: Mean and t-test result of Responses of students and teachers on the mechanisms (ways) of using school farm In motivating students participation in farm practical

S/N	Item Statement	Students \bar{x}	S.D ₁	Teachers \bar{x}	S.D ₂	N=108 Remarks
1.	Awards should be instituted for the best students of farm practical	3.00	1.00	3.78	0.62	Agreed

2.	Teachers should be interested and participate in farm practical to capture students interest	3.04	1.03	3.25	0.70	Agreed
3.	Establishment of good inter-personal relationship between teachers and students	3.17	0.89	3.72	0.78	Agreed
4.	The objective of farm practical activities should be clearly defined and stated	3.44	0.68	3.84	0.78	Agreed
5.	Students should have direct benefit from farm activities	3.17	0.89	3.72	0.78	Agreed
6.	Provision of portable and functional farm tools by the school to the number of students	3.25	1.08	3.72	0.75	Agreed
7.	Provision of portable and breeding stock of livestock and planting materials by the school rather than by the students	3.04	1.03	2.25	0.70	Agreed
8.	Regular visit to government and other establishment farms or agricultural centres should be organized for the students for hands on experiences	3.01	1.00	3.56	0.85	Agreed
9.	Students should have individuals plot for competitive practical	3.00	1.00	3.78	0.62	Agreed
10	Parents through the PTA should participate in the formulating of policies for school farm practical	3.04	1.03	3.25	0.70	Agreed
11	Students should directly be renowned in the sales of the farm produce to the community members	3.59	0.49	3.41	0.50	Agreed

Key: \bar{x}_1 = Students mean, S. D = Standard deviation, \bar{x}_2 = Teachers mean, S.D₂ = Teachers standard deviation

Data on table 2 revealed that all the eleven items identified are mechanisms for enhancing students' participation in farm practical, all the items had their mean values above the cut-off point of 2.50. It was therefore inferred that all the mechanisms could serve if applied in enhancing students' participation in farm practical.

Research Questions 3: What are the problems militating against the use of school farm in enhancing students' participation in farm practical secondary schools in Imo State?

The data that answered research question 3 are presented in Table 3.

Table 3: Mean and t-test Result of Students and Teachers Responses on the problems militating against the use of school farm in enhancing student's participation

S/N	Item Statement	Students \bar{x}	S.D ₁	Teachers \bar{x}	S.D ₂	N=108 Remarks
1.	Poor curriculum structure	3.65	0.71	3.50	0.62	Agreed
2.	Lack of instructional materials for teachers	3.49	0.98	3.38	1.02	Agreed
3.	Lack of professional teachers	3.11	1.10	3.25	0.98	Agreed
4.	Poor access to school farms	2.10	0.68	2.06	0.64	Not
5.	Paucity of fund for the running of the farm	3.19	0.69	3.92	0.56	Agreed
6.	Availability of land for practical	3.44	0.68	3.84	0.98	Agreed
7.	Ignorance of the roles of school farms in school	2.18	0.74	2.22	0.64	Not
8.	Poor supervision by those responsible	3.16	1.02	3.69	0.67	Agreed
9.	Inadequate time for practical	3.10	0.98	3.75	1.06	Agreed
10	Teachers/administrative interest	3.01	1.00	3.56	0.83	Agreed

Key: \bar{x}_1 = Students mean, S.D₁ = Students Standard deviation, \bar{x}_2 = Teachers mean, S.D₂ = Teachers standard deviation.

Data in Table 3 above shows that respondents agreed with items 1,2,3,5,6,8,9 and 10. The items have mean values above 2.50 as mean cut-off point set for acceptance for the study while items 4 and 7 were disagreed by the respondents. The items have mean value below 2.50 of the mean benchmark earlier set as agreed for the study. The whole items in the table have standard deviation values ranging from 0.56 to 1.06 which shows that respondents were not far from each other in their responses and this implies that some problems militates against the use of school farms for practical and they include; inadequate time for practical, lack of instructional materials for teachers, lack of professional teachers, teachers and administrative interest and availability of land for practical among others.

Discussion of findings

The findings were discussed in accordance to the research questions that guided the study as follows:

Research question one sought to find out the roles played by school farm in secondary schools in Imo State. Data in Table 1 revealed that respondents agreed with item 1-9 as the roles played by school farms in secondary schools in Imo State. The 9 items have their standard deviation value ranging from 0.56 to 1.06 which shows that respondents were not far from each other in their responses and this implies that school farm improves students' participation in farm practical. This supports the findings of Olaitan (2012) who stated that school farm enables students to form right habits and thinking necessary for success in any relevant agricultural occupation.

The hypothesis testing in Table 1 showed that; there was no significant difference on the mean ratings of students and teachers on the roles played by school farm in enhancing students' participation in farm practical in secondary schools. It therefore means that "both the teachers and students are aware of the roles played by school farms in enhancing students' participation in farm practical in secondary schools. This finding is in consonance with Ighakpe (2023) and Olaitan (2012) whose study indicated that the school farm provides an agricultural experience for students especially those without agricultural background as well as enhance students love and interest in agriculture.

Data in Table 2 reveals eleven suitable mechanisms that could help in enhancing students participation in farm practical. This could result in the students positive change of attitude towards farm practical activities, and can be achieved if students are made to have the feeling of success through award of prizes, commendation or praises as motivation, agricultural science teachers becoming interested and getting involved fully in farm practical activities will fill in the students the idea of dignity of labour. A good interpersonal relationship between the agricultural teachers and the students could provide the supporting spirit and the need for mutual co-operation between the teacher and the students in the performance of farm practical and not as forced labour, clearly defined and stated objectives of farm practical could provide the initial guide to the planning and implementation of farm practical activities. This of course, could result from a well articulated practical agriculture curriculum which would contain the

agricultural experiences and purposeful activities to be provided and directed by the school through the agricultural teachers.

Successful farm practical cannot be achieved without the provision of appropriate equipment and tools. This is in line with the findings of Ekong (2013) which emphasized that personal interest in farm practical could be created in students with the provision of facilities in farm practical such as those for keeping livestock.

Data in Table 3 revealed that some problems militate against the use of school farms for student practical activities. They include paucity of fund for the running of the farm, availability of land for practical, inadequate time for practical, poor supervision, teachers/administrative interest, poor curriculum structure, lack of instructional materials and professional teachers. This supports the findings of Ekong (2013) who observed that although land are provided for farm practical, they are not enough. This is also in line with the observation of Ighakpe, (2023) and Ronaldo (2017) who stated that students' ineffective performance in Agricultural Science is because they do not participate in practical work to widen their horizon on agricultural equipment and its uses.

Conclusion

Enhancing students participation in farm practical would involve an integrated approach adopting the formal, organized practices and out of the classroom as well as elements of invitation and apprenticeship through hands on experiences. This could form the foundation for fully vocationalizing agriculture towards making it have the focus on farming and development of rural communities. It will also make agriculture an integral part of the school culture, so that students are well positioned to appreciate farming, and make it a lifestyle, even when they do not intend to specialize in it.

When students fully get involved in farm practical and develop interest in it, this would occupationally motivate and prepare them for success in agricultural world of work. Success in agriculture according to Ekong (2013) demands the spirit of co-operation, exchange of ideas, hand work, disciplined behavior as ingredients. These elements as derivable from practical activities are very imperative.

Recommendations

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

1. The importance of school farm (both crop and animals) should be well emphasized in the secondary schools curriculum by curriculum planners.
2. Teachers should ensure they handle agriculture as a practical subject in such a way that it will encourage students to develop interest in agriculture.
3. Schools should ensure that their environment is favourable for agricultural subject by ensuring that there are adequate classrooms and land for practical agriculture.

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