

ENTREPRENEURIAL SKILLS NEEDED BY AGRICULTURAL EDUCATION UNDERGRADUATES TO ENTER INTO POULTRY PRODUCTION FOR SUSTAINABLE ECONOMY IN DELTA STATE, NIGERIA

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Abstract

Entrepreneurial skills needed by Agricultural Education undergraduates to enter into poultry production for sustainable economy in Delta State were examined in this study. This study employed the ex post facto research design. The target population for the study was the 1,932 Agricultural Education undergraduates in Delta State. A sample of 330 students was used as the sample. Purposive sampling through the convenience/accidental technique was used. A self developed questionnaire consisting of three sub-scales and validated by Agricultural Science and Measurement and Evaluation experts was used in the collection of data for the study. The generated data were analysed with the use of descriptive statistics of mean and deviation. Based on the analysis it was observed that there were no difference between male and female students in terms of the management skills, financial management skills, and environmental management skills required for agricultural education undergraduates to venture into poultry production, thereby contributing to the development of a sustainable global economy in Delta State. It was recommended among others that the National University Commission should ensure the incorporation of management, financial and environmental skills acquisition needs of entrepreneurship education into poultry production for better implementation and teaching.

Keywords: Entrepreneurial skills, Environmental management skills, Financial skills, Management skills, Poultry production, Sustainable economy

Introduction

Skill acquisition in poultry production include the mastery of practical skills and knowledge in poultry farming of Agricultural Education; which can be acquired through the practical and theoretical aspect of the curriculum. Skill is the capacity to perform well, usually earned through training or experience, whereas acquisition is the act of gaining new knowledge and skills that can be applied on and off the job. This talent can be learned through education, training, or experience, which will instil in the individual how to effectively carry out or fulfil obligations with the new information. This is due to the fact that any job performed by skilled persons cannot be compared to duties performed by unskilled people (Sing et al., 2022).

There are assorted forms of entrepreneurial skills students are expected to acquire ranging from technical skills, leadership and business management skills, creative thinking, innovative skills, practical skills, self-motivation skills, financial resources skills, marketing skills, as well as skills that will help them manage the environment to ensure a sustainable global economy. Because entrepreneurial abilities can be used to a wide range of employment roles and industries, honing them can include honing a variety of skill sets. For example, in order to be successful in poultry, an individual may need to improve his or her production skills. To build and maintain successful project teams the individual might need to improve his/her leadership and communication skills (Kabir et al., 2017)

Entrepreneurial skills include the ability to discover and/or create possibilities, seize those opportunities, and a variety of talents linked to developing and implementing business plans to bring such prospects to reality. Entrepreneurial skills are precisely defined in the scope of this study as the competencies required by poultry producers to anticipate economic potential within the poultry industry. These comprise the ability to investigate, assign, coordinate, and manage input resources efficiently in order to maximise productivity.

Entrepreneurial skills or abilities, according to Edokpolor and Chukwuedo (2018), are competencies that students must possess in order to establish a firm. Core skills include life and job skills, learning and innovation skills, and information, media, and technology skills. They are often classified among the non-cognitive skills. It described non-cognitive skills as socio-emotional traits and behaviours (also called “soft” skills). Communication, creativity, and innovation, teamwork and collaboration, critical thinking and problem-solving, desirability and feasibility analysis, ICT literacy, social and cross-cultural competence, learning and self-direction abilities, management and leadership skills, and flexibility and adaptability are all criteria for assessing entrepreneurial skills. Generally, acquiring these skills, as noted by Edokpolor (2020), allow undergraduates to create income-generating capacities, ensure access to life-sustaining necessities, stimulate personal growth, and make informed decisions.

Entrepreneurial skills acquisition in poultry production is the process of combining creative and innovative ideas with managerial and organisational abilities in order to address an identified need and achieve a sustainable global economy. A sustainable economy, through acquiring the necessary entrepreneurial skills, will provide a good quality of life for people, stay within the limits of the planet and help to keep global warming threshold. Transforming our economy is a daunting task that necessitates the audacious development of entrepreneurial skills in chicken production as well as a strong commitment to action.

The problem of unemployment may best be tackled by equipping potential entrepreneurs with saleable skills which may be used in achieving food security, especially through poultry production. According to Onuka and Olaitan, as cited in Inibehe and Etop (2022), poultry production skills are those needed skills by farmers to plan, create, establish and successfully run poultry enterprises using human and non-human resources. The skills are planning, organization and implementation. Nsa and Ikot (2013) affirmed that poultry production occupies a unique position in the livestock industry and it involves management practices such as planning, supervision, coordinating and marketing of the products.

Thus, one important skill needed by undergraduates of agricultural education to enter into poultry production to enhance a sustainable global economy is the acquisition of management skills. Acquisition of management skills will enable agricultural education undergraduates to run successful poultry production to enhance a sustainable global economy. Poultry farming starts with planning for the pen (farmhouse), provision for the feeding troughs, drinkers, the medication, as well as provision for their hygiene. In the layers’ unit, provision is made for the collection of eggs and marketing. While in the broilers’ unit, its management starts from the day old through maturity to marketing of the birds. This is why Eze and Muoneke (2014) affirmed that profitable poultry production demands a mastery of management skills from individuals aspiring to venture into poultry production.

Managerial skill is a requisite for undergraduate agricultural education students in starting, developing and managing a poultry production business. It also includes skills in decision-making control and negotiation, essential in creating and growing a new business venture. Thus, Anyakoha (2019) stated some of the needed management skills to succeed in any enterprise include; the ability to communicate effectively, the ability to make long and short-term plans, the ability to manage time, finance and meet job schedules. The importance of management skills acquisition cannot be overemphasized as undergraduate students, irrespective of gender, who want to succeed in any business, especially poultry production must acquire. Hence, Iradale (2012) found no gender differences in the management skills needs of

undergraduate entrepreneurship education as they require enough managerial skills relevant to the management of small-scale businesses. Ojo (2021) also reported no significant differences between male and female undergraduate students' management skills needed to succeed in a business enterprise. Ojo (2021) averred that management skills needed by undergraduate entrepreneurship education students' innovation and creativity skills, risk management skills, employment generation skills, establishment of small and medium-sized businesses skills and spirit of perseverance to a great extent will make a successful entrepreneur.

Poultry production is viewed as a complex endeavour entailing the intertwining of economic, social, and environmental factors within a given socioeconomic framework. However, when poultry production becomes more centralised and operational scales grow, major environmental issues emerge, as outlined by Rodi et al. (2011). Despite significant socioeconomic benefits such as egg and meat production and job creation, the poultry industry endangers human and animal well-being by contributing to the pollution of water, land, and air, as stated by Muduli et al. (2019).

Poor waste management can lead to flock health issues, foul odours, fly breeding, and contamination of land and water (Tabler et al., 2021). As a result, poultry environmental management expertise is required to ensure environmental sustainability for environmental protection, human health and safety, and safe poultry production. Such a significant volume of waste in the environment may cause disposal and pollution difficulties unless environmentally and economically sustainable alternatives are discovered. Resolving these issues requires serious attention to skills acquisition in managing poultry waste so that the environmental impacts of such a huge volume of waste are minimized. In addition to the above skill, it is paramount to note that undergraduate agricultural education needs to acquire financial management skills.

Some of the financial skills needed by agricultural education undergraduates includes but not limited to knowledge of: accounts; costing; interpretation of financial statement; preparing financial statements; gross and net profit; sources of funds; how to obtain loans; A knowledge of federal, state and local government levies, taxes and regulations; Ability to process inventories; preparing ledgers and extract the trial balance and a host of financial skills.

Studies such as Abdulkareem and Afolabi (2022) and Akande (2021) have noted the importance of financial management skills acquisition for entrepreneurship education among undergraduate students, however, they were not directed at the differences between male and female undergraduate students' financial management needs.

Financial literacy has been widely acknowledged as a basic skill that is critical for individuals who need to make financial decisions in today's modern multifaceted financial environment. According to Fonseca et al. (2012), men have higher levels of financial literacy than women, explaining the gap in financial risk perception. According to Fonseca et al. (2012), while gender differences in risk perception are well accepted, there is less consensus on the amount of financial management skill needed between males and females. As a result, they discovered no statistically significant difference between males and girls in the financial management skills required for a successful business operation. In support of the foregoing, Glaser and Walther (2014) found no difference in the financial management skills required by male and female entrepreneurs to be successful in their businesses. In contrast to the preceding, Budyastuti (2021) stated in their study that there are disparities in financial literacy and financial management abilities required to thrive in business between males and females, as men are better at managing funds and financial literacy than women.

The direct ecological impact of chicken production has become a major source of worry for the environment (Varijakshapanicker et al., 2019). For persons entering the poultry production industry, the pressing requirement for environmental waste management in poultry production has demanded the acquisition of environmental management skills. Environmental sustainability refers to reducing the environmental impact of chicken production. This is achieved through efficient production and management practices, like improved breeding, feed

production, waste management, emissions management, water usage, and supply chain distribution.

The skills to be acquired in relation to environmental, social, and economic sustainability is important to help reduce the effect of the fallout conditions arising due to the impact of climate change. Environmental management skill acquisition is therefore a major concern needed by agricultural education undergraduates to enter into poultry production for a sustainable economy. Environmental management skill acquisition is the ability of an individual to effectively perform the knowledge processes and activities on which waste management system for poultry production depends (Dalólio et al., 2015).

In the Sub-Saharan region of Africa, women are not only victims of climate change and environmental degradation but they have been at the forefront of environmental sustainability. They also possess knowledge and skills that are critical to finding context-specific solutions to environmental challenges. Experience shows that the resilience of households and communities depends greatly on the resilience of women. In view of the above, Owino (2017) revealed that the roles and responsibilities of both women and men affect the environment through their socio-economic activities and the resulting changes affect people's wellbeing. Women's job is frequently associated with the natural environment and environmental conditions. As a result, there is gender differentiation; gender relations mediate environmental security; and women and men have both competing and complementary interests and functions in environmental management. As a result of gender inequities in access to environmental resources, Owino (2017) discovered considerable differences between women's and men's environmental challenges.

However, Owino (2017) pointed out no significant difference in the environmental management skill needs between men and women in society as both genders need the skill to ensure environmental security despite the different roles played. Women's small business leadership has been frequently compared with men's. Some claim that women's and men's business environmental management skills appear not to vary significantly (Birley, 2019; Carlsrud&Olm, 2016). Others, however, claim that women business owners tend to lack environmental management skills, training or experience. It was evidenced that both male and female respondents perceived the relevance of different managerial inputs with almost similar ratings. Hence, Sapienza et al. (2019) in their study revealed that there was no significant difference between males and females in the environmental management skills needed for environmental sustainability.

Purpose of the Study

The main of the study was to examine entrepreneurial skills needed by agricultural education undergraduates to enter into poultry production for sustainable economy in delta state, Nigeria. The specific objectives of the study are to:

- 1) find out the management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State;
- 2) identify the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State;
- 3) find out the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State;
- 4) examine the difference between the mean rating of male and female students on the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

- 5) determine if there is any difference between the mean rating of male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.
- 6) examine the difference between the mean rating of male and female students on the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Research Questions

The following research questions were stated to guide the study.

- (1) What are the management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State?
- (2) What are the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State?
- (3) What are the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State?

Hypotheses

Ho₁: There is no significant difference between the mean rating of male and female students on the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Ho₂: There is no significant difference between the mean rating of male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Ho₃: There is no significant difference between the mean rating of male and female students on the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Methodology

The study adopted an ex post facto research design. This type of study requires the researcher to administer questionnaires to determine the opinions, attitudes, or perceptions of respondents. Agricultural Science students in the Delta State higher institutions, which presently stand at 1,932 (Registry Departments of the various institutions) constituted the population used in the study. The purposive sampling technique was used employing the accidental or convenience sampling technique. In this type of technique, the researcher makes use of respondents who are readily available or are willing to participate in the study. Based on this, a sample of 330 students was used. A self developed questionnaire, which consisted of 30 items in the form of a four-point rating scale, was used to collect data for the study". The instrument was validated by Agricultural Science and Measurement and Evaluation experts in terms of the adequacy of the instrument to measure what it intends to measure. A reliability coefficient of 0.85 was obtained using Cronbach's Coefficient Alpha. Descriptive statistics in the form of mean and standard deviation were used in answering the research questions. A mean of 2.50 and above was used as the benchmark for accepting an item and a mean of 2.49 and below was regarded as rejected. The student t-test was used in testing the stated hypotheses at 0.05 level of significance.

Results**Research Question One**

- 1) What are the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State?

Table 1: Mean and standard deviation analysis of management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

SN	Statements	N = 330 Sum	Mean = S/N	SD	Remark
1	Ability to identify the type and breed of poultry to rear	1164	3.53	.980	Accept
2	Ability to select appropriate feeds for birds at different stages	1090	3.30	1.031	Accept
3	Knowing when to consult veterinary service	1148	3.48	.930	Accept
4	Ability to identify material resources required for poultry production	1139	3.45	1.016	Accept
5	Ability to decide the type of poultry house to build	1094	3.32	.853	Accept
6	Ability to provide good drinking water for brooders	1147	3.48	.955	Accept
7	Ability to accommodate and plan for changes in information technology	1012	3.07	.862	Accept
8	Ability to organize ideas and concepts related to poultry production	1131	3.43	1.041	Accept
9	Ability to plan daily farm activities	1060	3.21	.842	Accept
10	Ability to determine housing requirements for poultry production project	1049	3.18	.893	Accept
Average mean			3.35	0.940	Accept

Table 1 shows that the entire 10 items indicate the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State due to the fact that the responses were above the criterion cut-off point mean of 3.00. Hence, the entire ten items are the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State. This is because the average-mean response rate of the respondents given as 3.35 is above the criterion level of 3.00 set as benchmark for accepting an item for being high.

Research Question Two

What are the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State?

Table 2: Mean and standard deviation analysis of financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

SN	STATEMENTS	N = 330 Sum	Mean = S/N	SD	Remark
11	Ability to make financial decisions to purchase chicks correctly	1169	3.54	.977	Accept
12	Ability to effectively calculate gross and net profits correctly that is accruing from the purchase of chicks	1101	3.34	.735	Accept
13	Should effectively understand financial reporting for feeds bought	1204	3.65	.774	Accept
14	Should effectively take financial decisions independently for the success of completing a business task	1111	3.37	.800	Accept
15	Ability to effectively give investment appraisal on business execution.	1087	3.29	.913	Accept
16	Ability to effectively set accurate budgets for materials to be bought	1081	3.28	.868	Accept
17	Should understand vital issues in establishing the cost of birds to be sold	1012	3.07	.862	Accept
18	Ability to effectively understand income–expenditure accounts accruing from business deals	1119	3.39	.812	Accept
19	Effectively forecast materials to be used to achieve strategic business targets on business	1194	3.62	.772	Accept
20	Ability to take financial estimates accurately	1107	3.35	.819	Accept
Average mean			3.39	0.8195	Accept

Table 2 shows that the entire 10 items were accepted as the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy due to the fact that the responses were above the criterion cut-off point mean of 3.00. This is also in line with the average-mean response rate of the respondents given as 3.39 which is above the criterion level of 3.00 set as the benchmark for accepting an item.

Research Question Three

What are the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State?

Table 3: Mean and standard deviation analysis of the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

SN	Statements	N = 330 Sum	Mean = S/N	SD	Remark
21	Ability to perform slaughter operations in a clean environment	1030	3.12	.982	Accept
22	Ability to be aware that stocking density has a significant effect on broiler welfare	1077	3.26	.810	Accept
23	Ability to expand the space of the pen to improve the welfare of layers	1010	3.06	.953	Accept
24	Ability to keep the litter system in good conditions	1004	3.04	.983	Accept
25	Ability to regularly clean feeding trough	1107	3.48	.955	Accept
26	Knowledge of how and when to wash and clean water trough	1012	3.07	.862	Accept
27	Regular clearing of surrounding bushes	1049	3.18	.893	Accept
28	Knowledge of the proper disposal and storage of cleared droppings/faeces	1058	3.21	.875	Accept
29	Proper care of the environment to avoid the spreading of diseases on the farm	1056	3.20	.917	Accept
30	Knowledge of the environmental effect of unhygienic practice on the farm	1080	3.27	.832	Accept
Average mean			3.19	0.906	Accept

Table 3 shows that the entire 10 items indicate the variables that can be the environmental management skills needed by agricultural education undergraduates due to the fact that the responses were above the criterion cut-off point mean of 3.00 for the entire items of the table. This is because the average-mean response rate of the respondents given as 3.17 was above the criterion level of 3.00 set as bench mark for accepting an item for being high.

Testing of Hypotheses

H_{01} : There is no significant difference between the mean rating of male and female students on the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Table 4: T-test analysis on the difference between the mean scores of male and female students on the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

Respondents	N	Mean	SD	t-calc	P-value	Decision
Male	167	37.94	3.965	.516	2.607	Accept H_0
Female	163	36.66	3.565			

Alpha Level: 0.05, df = 328

Table 4 revealed that the mean and standard deviation score of male students was 37.94 and 3.965 respectively, while the mean and standard deviation score of female students was 36.66 and 3.565 respectively. The t-calculated value was 0.516, while the p-value was 2.607 at 0.05 level of significance for the two-tailed test. This result showed that the p-value is greater than the alpha level, which means that the null hypothesis was accepted. Thus, there is no

significant difference between male and female students in the management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Ho₂: There is no significant difference between male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Table 5: T-test analysis on the difference between the mean scores of male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

Respondents	N	Mean	SD	t-calc	P-value	Decision
Male	167	39.88	2.387	5.244	.089	Accept Ho
Female	163	37.58	2.782			

Alpha Level: 0.05, df = 328

Table 5 revealed that the mean and standard deviation scores of male students are 39.88 and 2.387 respectively, while the mean and standard deviation scores of females are 37.58 and 2.782 respectively. The t-calculated value was 5.244, while the p-value was 0.089 at an alpha level of 0.05 for the two-tailed test. This result showed that the p-value is greater (0.089) than the alpha level (0.05), which means that the null hypothesis was accepted. Thus, the analysis implies that there is no significant difference between male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State.

Hypothesis Three

Ho₃: There is no significant difference between male and female students on the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy.

Table 6: T-test analysis on the difference between the mean scores of male and female students on the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy

Respondents	N	Mean	SD	t-calc	P-value	Decision
Male	167	31.99	4.007	4.573	104	Accept Ho
Female	163	29.63	3.224			

Alpha Level: 0.05, df = 328

Table 6 revealed that the mean and standard deviation scores of male students are 31.99 and 4.007 respectively, while the mean and standard deviation scores of females are 29.63 and 3.224 respectively. The t-calculated value was 4.573, while the p-value was 0.104 at an alpha level of 0.05 for the two-tailed test. This result showed that the p-value is greater than the alpha level, which means that the null hypothesis was accepted. Thus, the analysis implies that there is no significant difference between male and female students in the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance sustainable global economy in Delta State.

Discussion of Findings

The study's initial finding was that there was no significant difference between the mean rating of male and female students in the management abilities required by agricultural education undergraduates to enter into poultry production to strengthen Delta State's sustainable global economy. This finding is in line with Iradale (2012) and Ojo (2021). In line with the above finding, Iradale (2012) found that there were no gender differences in the management skills needs of undergraduate entrepreneurship education as they require enough managerial skills relevant to the management of small-scale businesses. In supporting the above finding and that, of Iradale (2012) Ojo (2021) also reported no significant differences between male and female undergraduate students' management skills needed to succeed in a business enterprise. To be a successful entrepreneur, undergraduate entrepreneurship education students need managerial skills such as innovation and creativity, risk management, employment generation, and the establishment of small and medium-sized businesses, as well as a spirit of perseverance.

The second finding of the study revealed that there was no significant difference between male and female students on the financial management skills needed by agricultural education undergraduates to enter into poultry production to enhance a sustainable global economy in Delta State. Fonseca et al. (2012) discovered no significant difference between males and females in the financial management skills required for a successful business endeavour. In support of the foregoing, Glaser and Walther (2014) found no substantial difference in the financial management abilities required by male and female entrepreneurs to be successful in their firms. In contrast to the second finding and those of Fonseca et al. (2012); Glaser and Walther (2014), Budyastuti (2021) noted in their study that there are disparities in financial literacy and financial management abilities required to thrive in business between males and females.

Finally, the third finding revealed that there was no significant difference between male and female students on the environmental management skills needed by agricultural education undergraduates to enter into poultry production to enhance the sustainable global economy in Delta State. This finding is corroborated by Owino (2017), who stated that there is no substantial difference in the environmental management skills demands of men and women in society because all genders require the ability to secure environmental security despite their distinct positions. Sapienza et al. (2019) found no significant difference between males and females in the environmental management abilities required for environmental sustainability, which supports the third finding of the study.

Conclusion

The poultry production sector has developed profitably in the state and large-scale production is being practised while a lot of people derive their means of livelihood from poultry and its associated industries. In light of these findings, the study sought to uncover the entrepreneurial abilities needed by agricultural education undergraduates to engage in chicken production in Delta State, Nigeria, in order to promote a sustainable economy. The findings revealed that there was no difference between male and female students in terms of the management skills, financial management skills, and environmental management skills required for agricultural education undergraduates to venture into poultry production, thereby contributing to the development of a sustainable global economy in Delta State.

Recommendations

Based on the conclusion, it was recommended that:

1. The National University Commission should ensure the incorporation of management skills acquisition in the Agricultural Science entrepreneurship education through poultry production to enhance sustainable economy in Delta State for students irrespective of gender.

2. Provision of adequate facilities should be ensured in the teaching of poultry production to all students irrespective of gender so to encourage students to acquire the needed financial skills for poultry production to enhance a sustainable economy.
3. Proper attention should be paid to the environmental skills acquisition as of entrepreneurship education for poultry production in ensuring sustainable economy in Delta State.

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