Impact of Entrepreneurship Education on Acquisition of Skills for Self-Employment Among Nigerian Certificate of Education Biology Students for Sustainable Development in Nigeria

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This study examines the relevance of Entrepreneurship Education on acquisition of skills for self-employment and sustainable development among NCE Biology students in Federal College of Education, Zaria. Quasi experimental design involving the use of validated Entrepreneurship Education and Skills Acquisition for Self Employment Assessment Scale (ESASAS) with reliability coefficient of 0.70 was adopted for this study. A total number of 35 students randomly selected formed the sample for this study. Students were grouped into three categories: Experiment I - Floriculture, Experiment II – Vegetable Gardening and Control Group. The training lasted for eight weeks after each students in the three groups were provided with small capital of five thousand Naira each to invest. T-test and ANOVA were used to analyze the data obtained. The result of findings revealed that there is significant effect of Entrepreneurship Education on skills acquisition of students exposed to floriculture, vegetable gardening and those who were not. This study recommends the need for Federal and State Ministries of Education to provide resources for NCE Biology teachers with adequate training in terms of skills required for Entrepreneurship Education in Nigeria.

Keywords: Entrepreneurship Education, Skills acquisition, Self-employment, Sustainable development, Biology students

Introduction

Nigeria is a developing country in which political upheavals, economic depression and unemployment have frustrated her development. Perhaps a lasting solution to these problems would be achieved through empowering our youths and graduates with job opportunities for a sustainable development. Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Bank, 2015; European Commission, 2015). That development should cut across all disciplines in the academic arena including Biology Education. Merriam-Webster dictionary (2017) defines Education as the knowledge, skill and understanding that someone gets from attending a school, college or university. It can also be defined as a field of study that deals with the methods and problems of teaching. Okeke, (2007) defines Education as the process individuals undergo through the acquisition of knowledge, skills, abilities and attitudes that are necessary for effective living in the society. Okemakinde, Adewuyi and Alabi, (2013) assert that Education is often seen as a prerequisite for quality manpower development and creation of wealth, a sure path to success in life and service to humanity. It is expected to foster the development of manpower to handle the various sectors or institutions of society, to formulate ideas for national development and promote progressive and united Nigeria. Hence, Education should prepare people to be enterprising as they may be employees and entrepreneurs. In Nigeria today, these definitions are implausible as our graduates find it very

difficult to get jobs or to be self-employed. One of the disciplines of Science Education where graduates are facing unemployment challenges is Biology (Pascal, 2007).

Biology is defined as the study of life and it is a natural science which studies living organisms and how they interact with each other in their environment. It examines structure, functioning, growth, origin, evolution and distribution of living things (Encyclopedia Britannica, 2008). Four coalesce principles from the foundation of modem Biology are identified as cell theory, evolution, genetics and homeostasis. Biology as an important subject is taught at secondary and tertiary levels globally (Pascal, 2007). Biology is the science of life makes life enjoyable and occupies a unique position in Nigerian Curriculum. At tertiary level, it is subdivided into manifold disciplines such as botany, zoology, microbiology, biochemistry, physiology, medicine, agriculture, biotechnology, anatomy etc. Abubakar, (2009) reports that Biological Sciences are more likely to have more significant influence on man than the physical Sciences. This is because most of our basic problems are biological. Therefore, proper understanding of life processes would lead to greater appreciation with the living world and an important force in the realization of a healthy productive and happy life which is the ultimate goal of Education. There are various business opportunities in Biology Education such as aquaculture, floriculture, poultry, beefarming etc. Biology students need to learn the requisite skills to practice in these areas to become selfemployed upon graduation.

Skill is defined as the ability and capacity acquired through deliberate systematic and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas, things and/or people i.e. cognitive skills, technical skills and interpersonal skills respectively (BusinessDictionary.com, 2017). While skills acquisition is a specific form of learning (Anyaegbu, 2017). Acquisition of skills can only take place in formal learning through Entrepreneurship Education which consequently prepares graduates with entrepreneurial knowledge and inculcates in them skills that are socially useable. It produces self-reliant graduates who can utilize the skills they have acquired to establish personal businesses (Ezeudu, Ofoegbu & Anyaegbunnam, 2013).

Verboon, (2015) defines Entrepreneurship as an often experiential approach where students go through an actual entrepreneurial learning process, integrated into other subjects in general Education while the entrepreneur is as a person who is able to translate thoughts into action, a dreamer and thinker who do something differently and therefore adding value to what existed previously (Filion, 2011). Generally speaking, entrepreneurs initiate, implement and develop their projects trying to use a limited number of resources in order to generate surpluses and profits which can then be reinvested to achieve further development. Their motivation is to innovate or introduce something new while minimizing the risk. Entrepreneurship elements are combination of innovation, risk taking, coordination of resources, value creation, projective and visionary thinking, focus on action, leadership, venture creation, opportunity recognition, creativity, control and introduction of change (Filion, 2011). Ojukwu, (2001) described Entrepreneurship development as a programme of human capital development inputs aimed at increasing the supply of adequately trained entrepreneurs who are motivated to make a success out of a business. Entrepreneurial development has been conceived by successive government as a programme of activities to

enhance the knowledge, skill, behavior and attitudes of individuals and groups to assume the role of entrepreneurs (Osemeke, 2012). Entrepreneurship Education on the other hand as defined by Fayolle, (2009) is all activities aiming to foster entrepreneurial mindsets, attitudes and skills and covering a range of aspects such as idea generation, start up, growth and innovation. Entrepreneurship Education can also be defined as when learners take ownership of their own learning, set their learning goals, defines and negotiates activities and design individual learning paths (Verboon, 2015). It is the Education that provides training experience and skills that are suitable for entrepreneurial endeavours (Ovie, 2011). According to Oviawe (2010), Entrepreneurship Education is the education given to an individual which will help him develop the skills needed for the management of any business venture. This type of education helps the person to take financial risks and at the same time utilize the material and human resources available to him to achieve the aim of establishing the business (QAA, 2012). Omoifo (2008) asserts that Entrepreneurship Education is a process of providing individuals with the ability to recognize commercial opportunities and the insight, self-esteem, knowledge and skills to act on them. Entrepreneurship Education should therefore prepare graduates with entrepreneurial knowledge, competence and skills needed to be self-reliant (Attayi, 2007).

Iloputaife (2002) stated that functionality in education serves to Identify students that possess entrepreneurial traits, motivate and develop students for launching and managing their own small-scale business enterprises and create necessary awareness and motivation in them for promoting self-employment and alternatives to wage empowerment. Odo (2001) stated three benefits of entrepreneurship - it fosters economic growth, increases productivity and lastly creates new technologies, products and services. Ezeudu F.O; Ofoegbu, T,O. & Anyaeegbunnam, N.J. (20l3) is of the opinion that provision of Entrepreneurship Education will help the students to form a base of knowledge about information and operation of business and develop some level of familiarity and comfort with the business environment such as technological change, micro- enterprises as well as playing a complimentary role in developing the occupational acknowledgment, job skills and work experiences. It is against this background that this research was undertaken.

Statement of the Problem

Biology is an applied field of study built upon many disciplines for the purpose of achieving and maintaining the wellbeing of individuals in an ever changing society. Biology Curriculum aims broadly at developing life coping skills such as recording, measuring, communicating, observing, predicting, hypothesizing, inferring among others. These skills when acquired are useful for success in business and for problem solving and adaptation for national and individual development. Thus, the inculcation of these skills into the students will enable them on graduating to become self-reliant and productive citizens, without waiting for government employment. The teaching of Biology also helps to develop in learner scientific attitude such as open mindedness, patience, curiosity, honesty and objectivity. However, unemployment is one of the problems facing our youths in Nigerian society. Every year, large numbers of graduates are produced from secondary and tertiary

institutions in Nigeria. It is fortunate that the discipline of Biology offers skills and opportunities in various fields e.g. poultry, bee-keeping, aquaculture, floriculture, vegetable gardening etc. which can imbibe entrepreneurship ability among the students depending on the geographical locations and their biodiversity. Many of the graduates remain unemployed because they depend largely on government for job opportunities. Such graduates may likely turn to committing crimes and other social vices such as financial crimes, armed robbery, prostitution, restiveness, thugery etc. There is a need to expose students to Entrepreneurship Education for self-employment which brings about sustainable development among them. This study intends to determine the relevance of Entrepreneurship Education on acquisition of skills for selfemployment and Sustainable development among NCE Biology students in Federal College of Education, Zaria, Kaduna State, Nigeria.

Objective of the Study

The main objective of this study is to determine the relevance of Entrepreneurship Education on acquisition of skills for self-employment among NCE Biology students in Federal College of Education, Zaria.

Research Questions

The following research questions guided the study.

RQ_1: Does Entrepreneurship Education lead to skills acquisition for selfemployment of students exposed to floriculture?

RQ_2: Does Entrepreneurship Education lead to skills acquisition for selfemployment of students exposed to vegetable gardening ?

RQ_3: Does there be any difference in the skills acquisition for selfemployment of students exposed to floriculture and vegetable gardening after Entrepreneurship Education training?.

Research Hypotheses

Three null hypotheses were tested at $P \leq 0.05$:

HO_1: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture and those who were not.

HO_2: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to vegetable gardening and those who were not.

HO_3: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture, vegetable gardening and those who were not.

Methodology

Quasi experimental design was adopted for this study. A total number of 35 NCE II Biology students were randomly selected from a population of 774 (in line with central limit theorem) in 2013/2014 academic session and formed the sample for this study. Students were grouped into three categories: Experiment Group I consisted of 10 students who received Entrepreneurship training on floriculture that is growing flowers for ornamental values and

for export as well as for domestic market. Experiment Group II consist of 9 students who received Entrepreneurship training on vegetable gardening while Control group consisted of 16 students who did not receive any form of Entrepreneurship training. The concurrent training lasted for eight weeks after which students in the three groups were provided with small capital of five thousands Naira each to invest. An action plan guiding the business was provided to the three groups. Each group was carefully monitored and rated. A validated Entrepreneurship Education and Skills Acquisition for Self Employment Assessment Scale (ESASAS) with reliability coefficient of 0.70 was adopted for assessing the students. The ESASAS assessment scale consisted of ten items developed based on modified likert scale with 3 marks assigned to good, 2 marks for fair and 1 mark for poor. Assessment was done to establish if the Entrepreneurship training has any significant effect on their business. T -test and ANOVA at $P \leq 0.05$ level of significance was used to test the null hypotheses by the means of SPSS software version 20.

Results

HO_1: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture and those who were not.

Table 1: t-test analysis of the Experimental Group I and Control Group

Variables	N	Mean	Std. Dev.	SE	Df	t-value	p.value	Remark
Exp. I	10	31.2	5.6	1.6	24	2.12	0.01	Sig.
Control	16	11.5	3.5	0.9				

*Significant at $P \leq 0.05$

Table 1 presented the t-test on the difference in business skills acquisition of students exposed to floriculture and those who were not. From the result obtained, Experimental group I recorded a mean of 32.2 and standard deviation of 5.6, while the Control group have a mean of 11.5 and standard deviation of 3.5. The t-value obtained is 2.12 and p-value obtained is 0.01 which is less than the alpha value 0.05. Therefore, the null hypothesis which stated that there is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture and those who were not was rejected.

HO_2: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to Vegetable gardening and those who were not.

Table 2: t-test analysis of the Experimental Group II and Control Group

		Mea	Std.	S	D	t-valu	p.valu	Remar
Exp.	9	29.	5.	1.	2	2.1	0.0	Sig
Contro	1	11.	3.	0.				

* Significant at $P \leq 0.05$

Variables N

Table 2 presented the t-test on the relevance of Entrepreneurship Education on business skills acquisition of students exposed to vegetable gardening and those who were not. From the result obtained, Experimental group II recorded a mean of 29.2 and standard deviation of 5.8, while the Control group has a mean of 11.5 and standard deviation of 3.5. The t-value obtained is 2.12 and p-value obtained is 0.03 which is less than the alpha value 0f 0.05. Therefore, the null hypothesis which stated that there is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to vegetable gardening and those who were not was rejected.

HO_3: There is no significant impact of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture, vegetable gardening and those who were not.

Table 3: Summary of one-way analysis of variance (ANOVA) on the business skills acquisition of students exposed to floriculture, vegetable gardening and those who were not

Source variation	oSum Squares	of df	Mean Square	Frequency	Significance
Between Groups	13.51	2	6.257	14.30	0.01
Within groups	301.02	1	.437		
Total					

* Significant at $P \leq 0.05$

Table 3 shows that Sum of Squares between groups is 13.51 and Sum of Squares within groups is 301.02. The F-value observed was 3.00 while the calculated value is 14.30, the p value is 0.01 and the alpha value is 0.05. This means that the p value is less than the 0.05. Therefore, the null hypothesis which stated that there is no significant effect of Entrepreneurship Education on skills acquisition for self-employment of students exposed to floriculture, vegetable gardening and those who were not also rejected.

Discussion

There is difference in business skills acquisition of students exposed to floriculture, vegetable gardening and those who were not. Students exposed to floriculture recorded the highest mean (31.2) followed by vegetable gardening, (29.2) and lastly the control group (11.5). Although there is difference that exists between the three groups, the difference is insignificant between experimental group I and II, but when compared to control group, the difference is significant at all cases. Consequently, Entrepreneurship Education has significant role on business skills acquisition of students. This research is similar to Akarue and Eyovwunu, (2014) who discovered in their research that training in Entrepreneurship

Education enhanced the performance of the experimental students in the small scale businesses they established. Ugochuku, Elisha, Afarn, Patrick, Nworie, Emmanuel and Joseph. (2014) also reported that Entrepreneurship Education influenced students in attaining business development awareness and skills acquisition. The findings from this study gained support from the previous studies such as that of Bolarinwa (2001) and Ezeudu, Ezeudu, F.O; Ofoegbu, T,O. & Anyaegbunnam, N.J., (2013) who claimed that Entrepreneurship Education plays a complementary role in developing the occupational knowledge, job skills and work experience of the trainee. It offers opportunities to students for job experience and for earning, saving and investing money at an earlier stage of life than their peers. It also contributes to their belief in their abilities and a sense of self-worth. Entrepreneurship Education provides opportunity for work based experiences, opportunity to exercise leadership and develop planning, financial literacy and money management skills. Drucker In Akarue and Eyovwunu, (2014) is of the view that entrepreneurship is a practice that can be learned. Strengthening this position Akpan, Effiong and Ele, (2012) observed that Entrepreneurship Education is a learning process starting early and progresses through all levels of Education. The implication of Entrepreneurship Education is encouraging since taking a course in entrepreneurship enhances students' confidence with regards to acquisition of skills to become successful in their established businesses.

Conclusion

Findings from the study indicate that Entrepreneurship Education plays a significant role on the acquisition of business skills for self employment among NCE Biology students. This research concludes that Implementation of Entrepreneurship Education at NCE level is very essential for sustainable development. Intervention from necessary bodies is highly needed for inculcation and implementation of Entrepreneurship Education at this level. The training at this level should not only be for employment but for self-reliance as well.

Recommendations

On the basis of the findings from the study, the following recommendations were made:

1. Federal and State ministries of Education should provide resources for NCE Biology teachers adequate training in terms of skills required for Entrepreneurship Education in Nigeria.
2. Monetary assistance should be given to NCE Biology students as capital to invest in their business upon graduation from the programme to reduce the rate of unemployment among youths.
3. Curriculum planners and Curriculum development bodies in Nigeria should incorporate Entrepreneurship skill acquisition programmes into the NCE Biology Curriculum

4. NCE Biology teachers should encourage students to develop self-reliance and confidence which will help them to address issues and problems in strategic ways. This will enable them to see their projects through to completion
5. NCE Biology teachers should enable students to shift from an abstract study of the past to developing knowledge and innovative skills that can help them adapt to changing and future environments.

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